JANUARY 19, 1935

Railway Age

FOUNDED IN 1856

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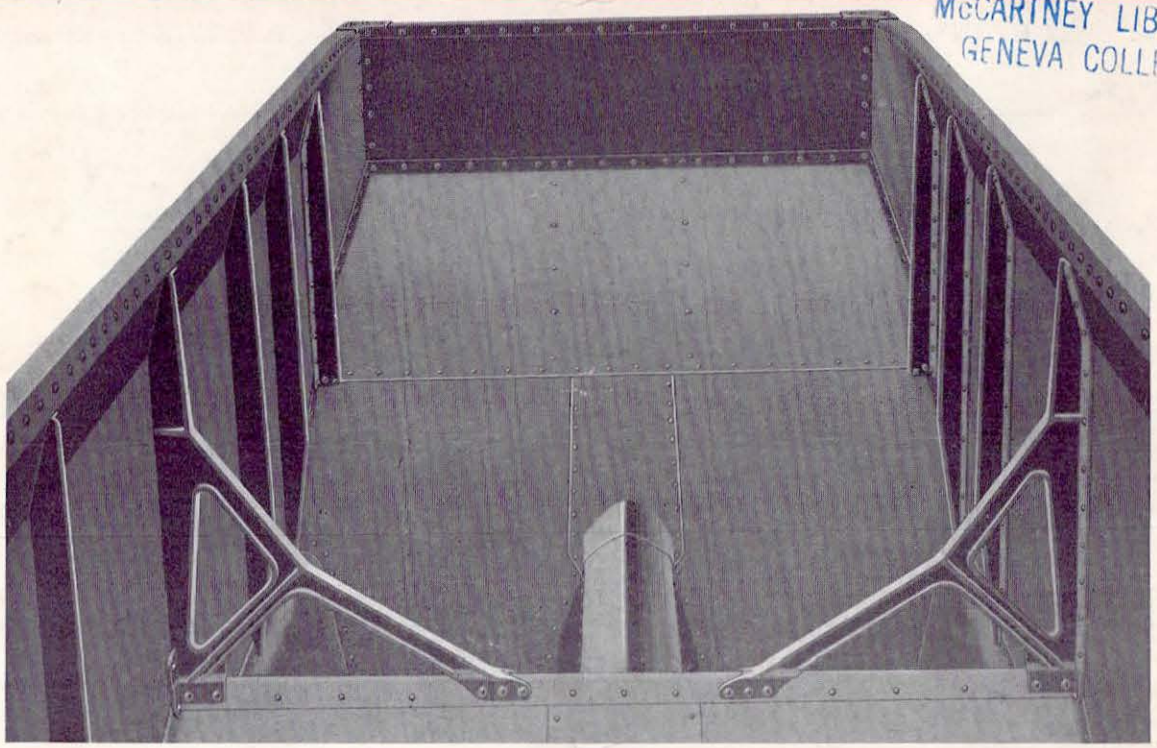
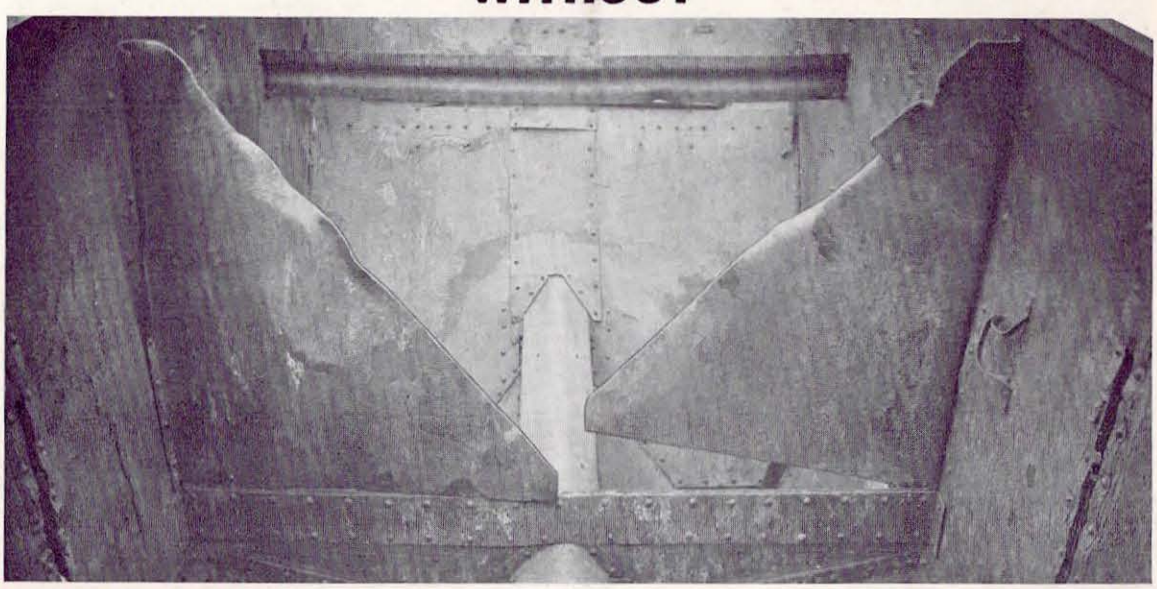


WITH

UNITCAST

WITHOUT



THE UNITCAST CO. TOLEDO

A railway car is only

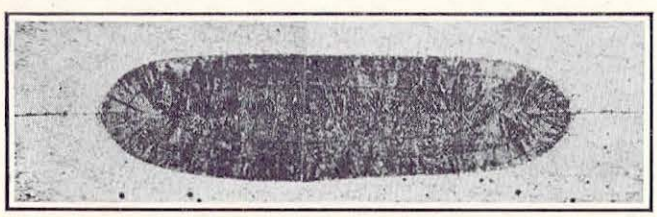
AS STRONG AS ITS WEAKEST JOINT

The "SHOTWELD" process welds joints that are strong, dependable, lasting

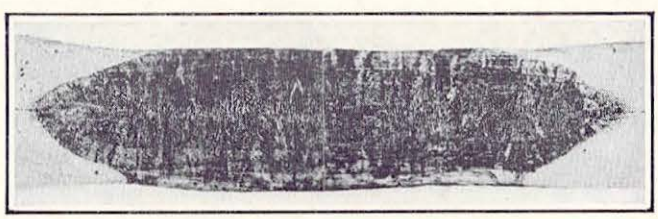
BUDD builds with stainless steel because it *alone*, of all metals, combines lasting strength with lightness. But only by the "Shotweld" process can this high-tensile, corrosion-proof material be fabricated efficiently.

The "Shotweld" process welds stainless steel with certainty. Each weld is a precision operation. Each weld is uniformly dependable. This process does not impair the strength of the metal in any way, nor does it render it less corrosion-resistant. There are no bolts or rivets to loosen and shear — no holes to cut away the strength. Every joint is strong, firm, welded to hold through time and weather.

Speed. Lightness. Strength. Safety. These are the "musts" of modern transportation. Only by use of stainless steel, welded by the "Shotweld" process, can they be fully attained.



● Cross-section of a "Shotweld." Note the center ingot, which but for an instant was molten, thus assuring complete fusion. Since the ingot does not reach the surface of the metal, the metallurgy is not impaired in any way. The "Shotweld" process so controls the application of heat that it insures 100 good welds out of 100 applications.



● Cross-section of an "uncontrolled" weld. Here, because the application of heat was too great, the metallurgy is entirely changed. This impairs the strength and ductility of the metal and renders it subject to corrosion. Such a slipshod weld as this is impossible with the "Shotweld" process, because the application of heat is carefully controlled.

SPEED WITH SAFETY

EDW. G. BUDD MANUFACTURING COMPANY

PHILADELPHIA

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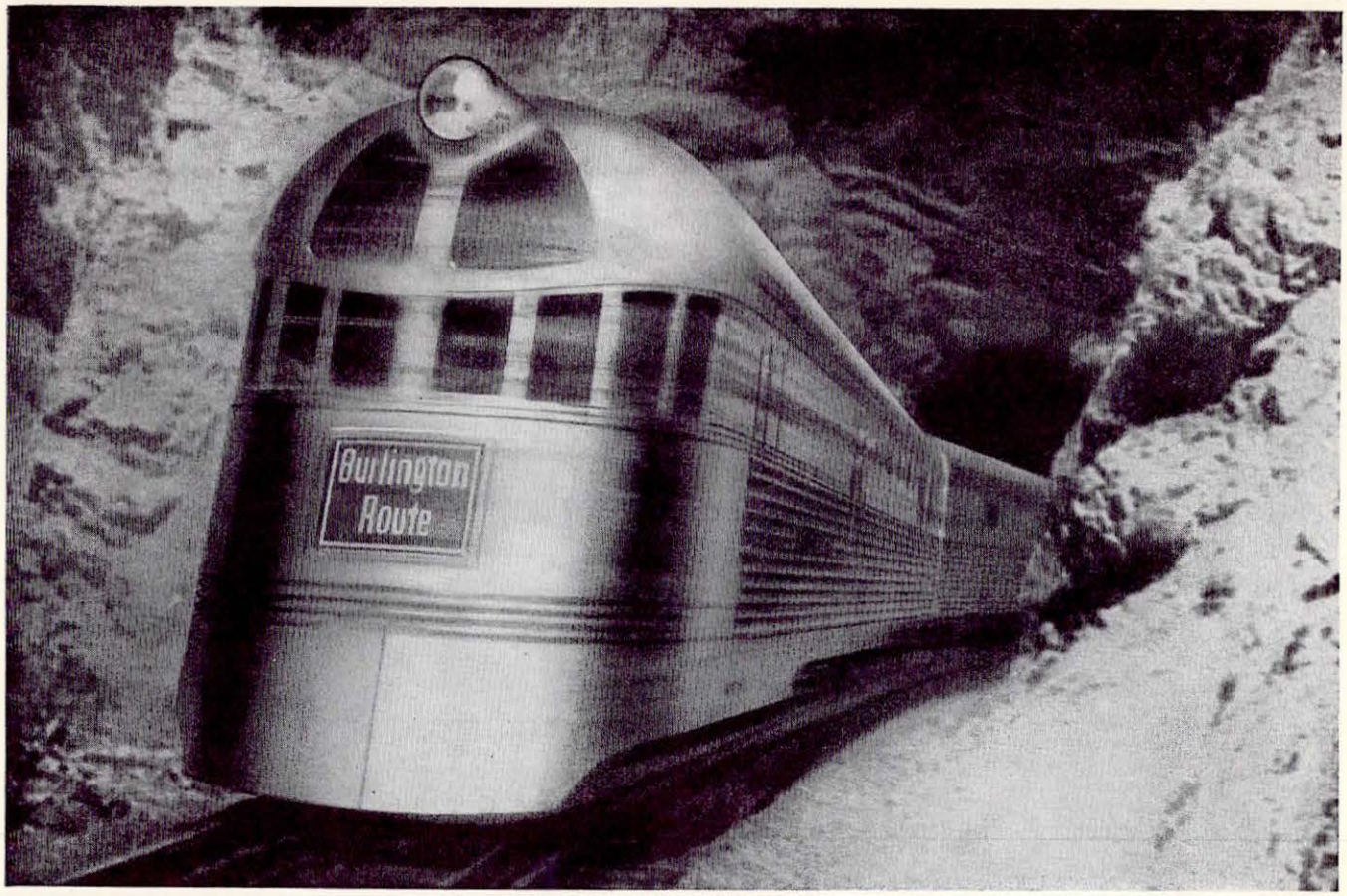

NEW VITALITY— surging through the railroads— calls for these WHEELS

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Wheels take the brunt of this new pace of railroad transportation. Wear-and-tear on wheels is far more severe from both the fast running and the violent braking action that goes with it. And the responsibility that wheels must carry becomes far heavier as the 100-mile-per-hour mark is approached. Nothing short of the closest approach to absolute dependability can be tolerated.

Bethlehem Heat-Treated Wrought-Steel Wheels maintain high standards of safety, and keep wheel-maintenance from soaring with speeds. These wheels derive unbounded strength and endurance from the forging and rolling processes of manufacture. And the special heat-treatment of the rim imparts stubborn resistance to wear, keeping them on the road for thousands of miles without attention.

On engine trucks, on tenders, on passenger cars, on special high-speed equipment, use Bethlehem Heat-Treated Wrought-Steel Wheels. Then new, higher speeds on rails won't bring new wheel-maintenance problems.

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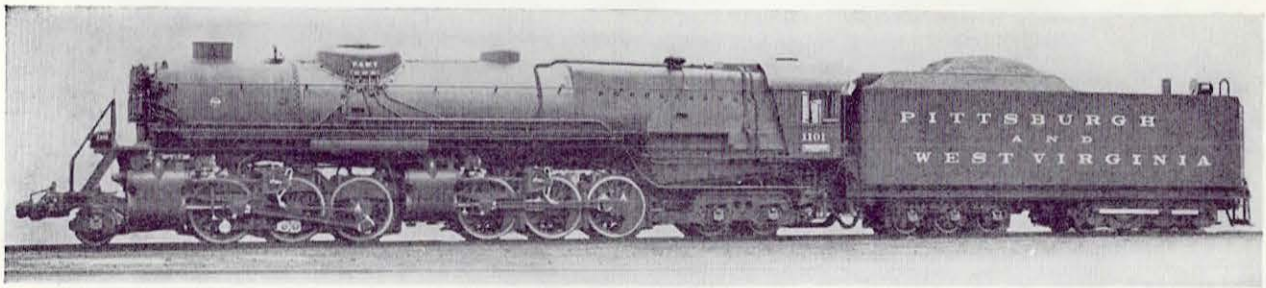
BETHLEHEM STEEL

THREE NEW LOCOMOTIVES

for the Pittsburgh & West Virginia



General Specifications

Cylinders (4)	*23" x 32"*
Drivers, diam.	*63"*
Steam pressure	*225 lb.*
Heating surface	*5914 sq. ft.*
Superheating surface	*1873 sq. ft.*
Grate area	*102.3 sq. ft.*
Weight on drivers	*397,300 lb.*
Weight, total eng.	*528,040 lb.*
Weight, eng. & tend.	*905,640 lb.*
Tractive force	*97,500 lb.*
Tractive force (auxiliary loco.)	*16,000 lb.*

During October, 1934, Baldwin delivered three single-expansion, articulated locomotives to the Pittsburgh & West Virginia Railway.

These powerful modern locomotives will be used to haul heavy coal trains from the fields of Pennsylvania and West Virginia to Pittsburgh and the west. Their hauling capacity will be approximately double that of the locomotives formerly used in this service.

The substitution of modern power hauling heavier trains with lower unit costs for fuel, water and maintenance, is one sure road to economy in railroad operation.

It takes Modern Locomotives to make money these days!

THE BALDWIN LOCOMOTIVE WORKS

PHILADELPHIA

Introducing

"A.W." "70-90" STEEL

THE SUPER STRENGTH STEEL IN SHEETS AND PLATES FOR RAILWAY EQUIPMENT

PROPERTIES:

(1) **High Strength**

Yield Point (Lb. per sq. in.)	70,000 min.
Tensile Strength (Lb. per sq. in.)	90,000 min.
Elongation (% in 2 in.)	20 min.

(2) **Weldability** — Excellent (no treatment required to prevent brittleness).

(3) **Corrosion Resistance** — Superior to all ordinary steels.

(4) **Fabrication** — Cold bends 180° flat upon itself.

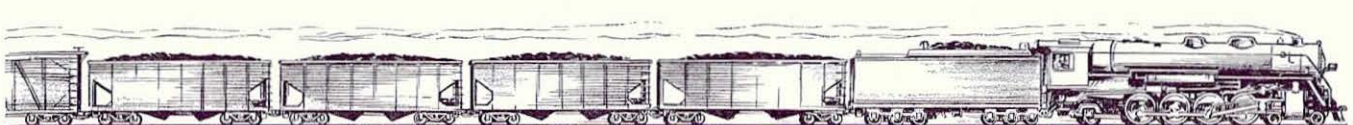
"A.W." 70-90 Steel is the latest achievement by the Alan Wood Steel Company in the development of Super-Strength Steels for use in the railway industry.

"A.W." 70-90 Steel is uniform as to physical properties. It welds with the greatest of ease, forms or cold flanges readily — and of paramount importance is the fact that "A.W." 70-90 offers the necessary resistance to corrosion that absolutely permits the use of lighter sections without fear of failure through this menace.

"A.W." 70-90 Steel enables you to build light weight cars with **reduced dead weight** and **increased pay load** capacity which will stand up in service and reduce operating costs very materially.

REDUCES DEAD WEIGHT INCREASES PAY LOAD

Literature describing in detail this new "A.W." 70-90 Steel is now on the press and will shortly be ready for distribution. Write and tell us your problem.



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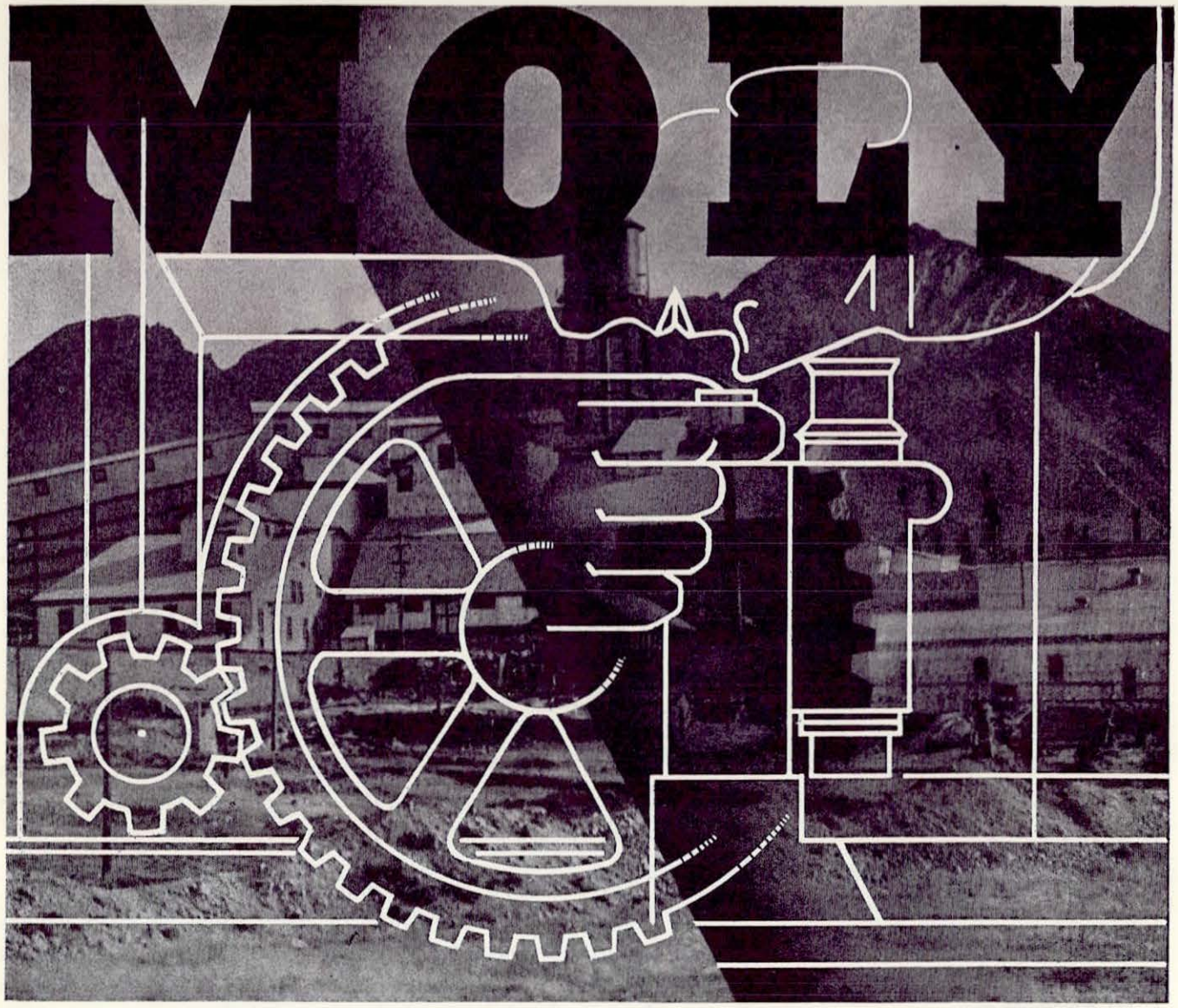

. . . proved where its journey begins

UNLIKE many products whose merit must be disclosed almost solely by their purchasers' experience with them, "Moly" goes "through its own mill" of service. Here, at the mine which gives it birth, Moly proves itself against such enemies of iron and steel as torturing wear, impact and fatigue . . . in crusher and iron pump parts, in steel shafting and drills.

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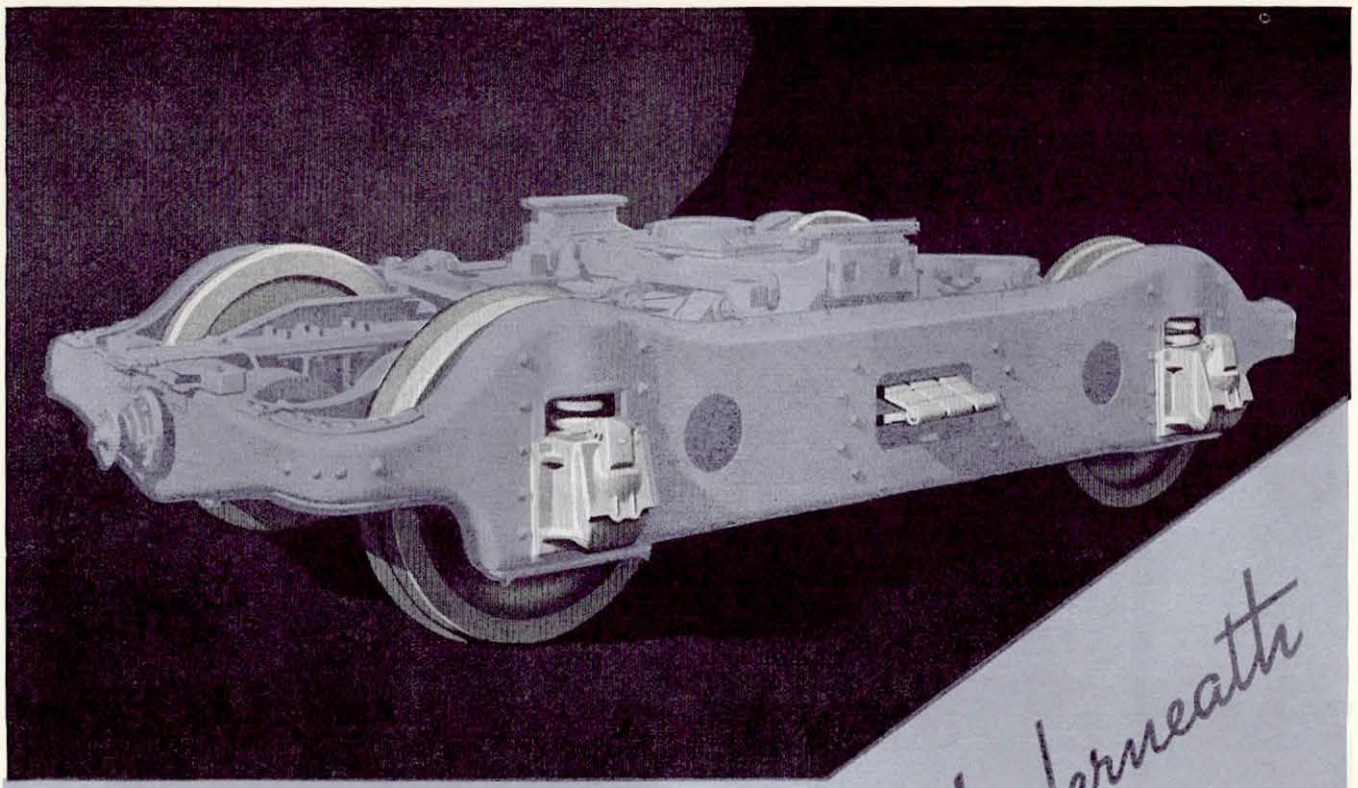

LOOKING AHEAD *Underneath*

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Now let us center your attention underneath the car, on the trucks. Let us speak of weight first of all. The overall weight of passenger car trucks, *including wheels and axles,* can be reduced 40% by building many of the parts of Alcoa Aluminum.

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All this saving in unsprung weight is achieved *without any decrease in the present high factors of safety maintained on American railroads.*

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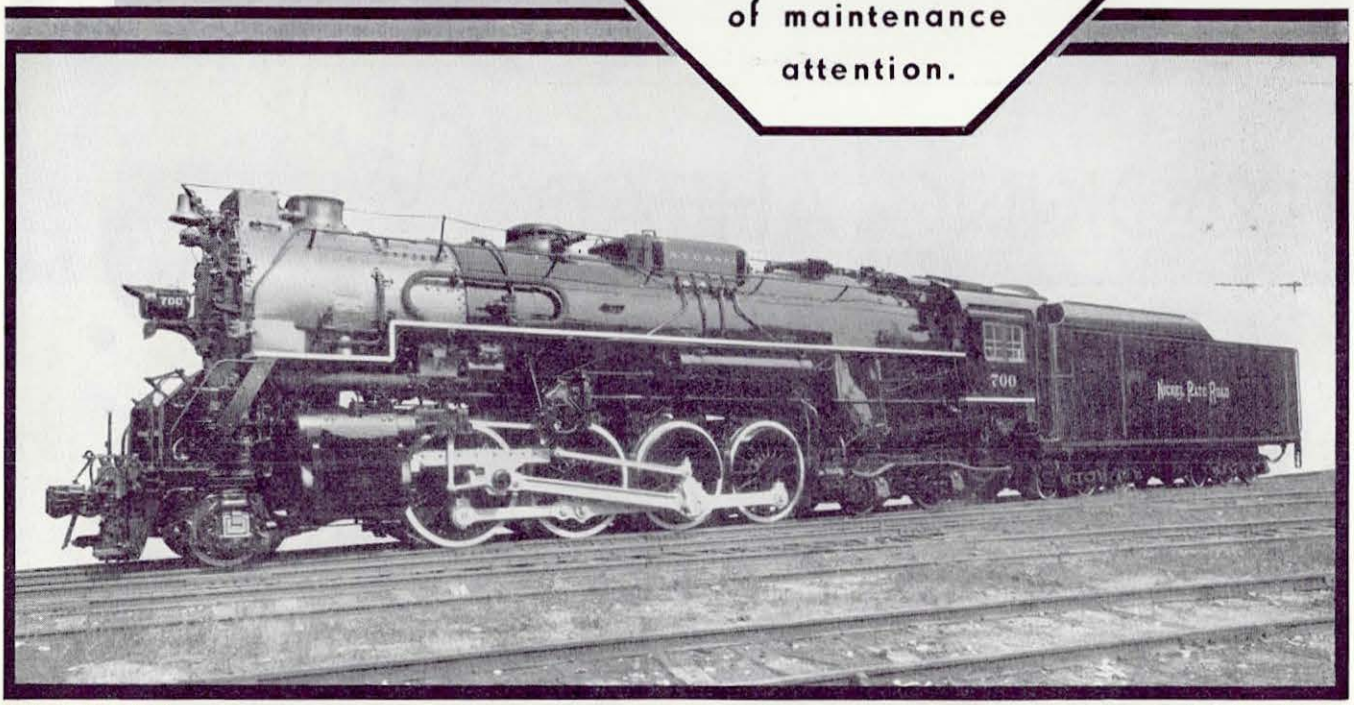
used on the tenders of the new Nickel Plate power, contribute to their dependability and efficiency, and increase availability with a minimum of maintenance attention.



These locomotives in working order have a total weight of 774,000 pounds and of this amount 358,000 pounds represents the weight of the tender, which has a capacity of 22 tons of coal and 22,000 gallons of water.

AMERICAN STEEL FOUNDRIES

NEW YORK CHICAGO ST. LOUIS

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Vol. 98 January 19, 1935 No. 3

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Norfolk Southern Buys Four Light Rail Motor Cars ..... **Page 70**

A description of this new "Rail Bus" which has been designed for single-unit operation and is driven by a 176-hp. gas engine through mechanical transmission.

Minimizing the Fire Hazard in Timber Freight Piers **73**

Tells how Boston & Maine adds final touch to protection afforded in five old piers by providing cellar nozzle holes in decks to prevent flames sweeping beneath.

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A Motor Transport Section article dealing with this new route upon which the Burlington Transportation Company began operations December 31.

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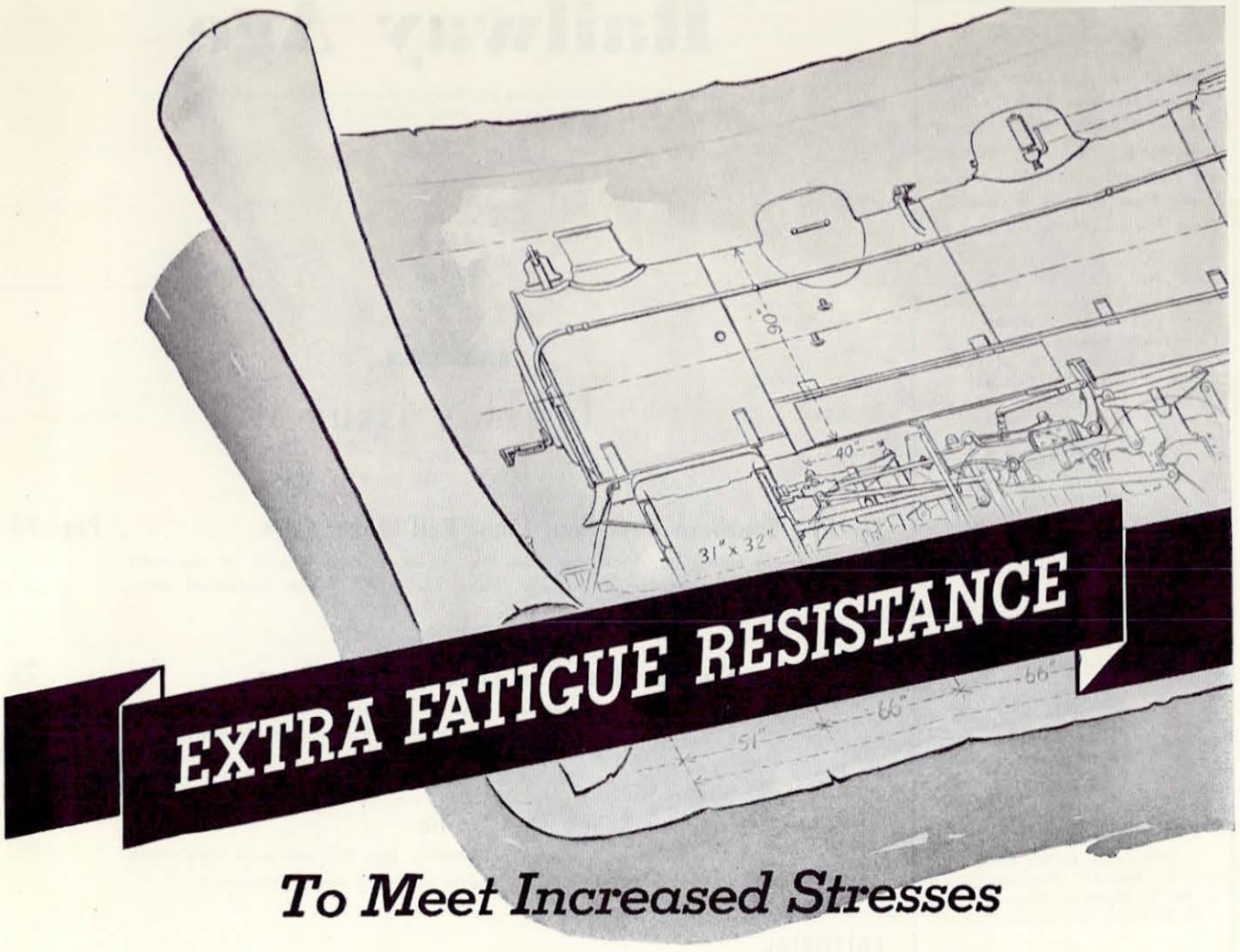
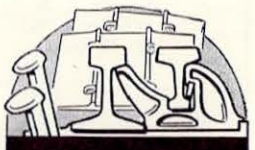


The average locomotive now in service dates from a time when 800 mile continuous runs and freight trains at 40 miles per hour had no place in the designer's plan. » » » Fitting these locomotives to modern railroad operation imposes stresses never contemplated by the designer. » » » Maintenance has been high but it can be lowered by taking full advantage of the improved materials made available by the science of modern metallurgy. » » » Alloy Steels and Irons, developed by Republic Steel Corporation Metallurgists, are providing better resistance to corrosion, greater strength and higher fatigue resistance. » » » Whether it be springs, rods, axles, motion work pins, tubes or staybolts, Republic Steel Corporation has carefully worked out a material specifically to meet the conditions of modern railroading. » » » A material that will be stronger and last longer. » » » Wherever you use iron or steel, consult Republic Steel Corporation for better materials. » » » » » » » » » » » » » »



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RAILWAY AGE

Government Ownership to Subsidize a Railway Wage Increase?

Impelled by some mysterious psychological force running counter both to reason and the instinct of self-preservation, the railway unions in Chicago last week resolved to go ahead with their political plans to extract $600,000,000 more each year from the railroad industry. This they did in the face of advice from Co-ordinator Eastman given at their meeting that the program could not "be applied to the railroads alone without disaster." The truth of that statement is unimpeachable. The railway unions' program not merely invites disaster; its success would make disaster inevitable. There are various parties at interest in the issue the railway unions have raised, although the politically-minded leaders seem to have considered only themselves. There are the railway employees, who as a class are far too intelligent and public spirited not to comprehend and deprecate the folly to which the union leaders have committed them. There are also railway patrons, railway investors and the taxpaying public upon whom the $600,000,000 raid would fall. They too will have something to say before the question is finally decided.

A $600,000,000 Raid

The unions' proposals embody (1) an increase in hourly wages of 33 per cent by the establishment of the six-hour day to replace that of eight hours now in effect, (2) the enforced addition of one or more unneeded employees to most trains, (3) an arbitrary limitation of freight trains to not more than one-half mile or 70 cars in length and of passenger trains to 14 cars, (4) assumption by governmental authority of such obviously managerial functions as inspection of bridges and signals, (5) amendment of the employers' liability act and the hours of service law further to increase railway operating expenses. The first three measures are the costly ones. On the basis of present meager traffic they would increase railway operating expenses by not less than $600,000,000, assuming that they could be made effective without reducing railway traffic and employment, which assumption is unwarranted.

The union leaders point to the decline of approximately 1,000,000 in railway employment in the past decade, and look to their legislative program to restore some of these employees to the payrolls. They overlook entirely the fact that, while railway employment has declined in the past ten years, *total employment in providing transportation service of the kind the railways were providing in 1923 has unquestionably increased.* A truck driver or bus driver can be hired for from one-fourth to one-third the hourly wage of a locomotive engineer, which accounts in large part for the increase in traffic on the highways and the decline of men gainfully employed in train and engine service. It is patent folly to assume that more men can be employed on the railroads by still further increasing the cost of their services, while nothing is done to augment that of competing transportation employees on the highways.

A Calamity to "Railroad" Towns

Obviously the first result of the adoption of the railway unions' program would be wholesale retrenchment. The unions might think to avoid this by arbitrary legislative limitations upon dismissals—but there is nothing in the law which can prevent a railroad from abandoning its plant and dismissing all its employees when its operating expenses exceed its revenues. On a great many "marginal" railway lines—just now barely earning operating expenses—the adoption of the unions' legislative program would quickly bring this result. That is to say, the $600,000,000 burden cannot be passed on to railway investors and railway patrons in its entirety. A substantial part of the burden would be borne by railway employees, who would lose comfortable positions in which they now feel secure. The calamity which would befall numerous communities throughout the land by the abandonment of lines even now barely paying expenses carries social implications of the gravest nature. In the case of "railroad" towns the consequences would be even more disastrous—when railway facilities are abandoned in such places, the railway employees lose not only their jobs but the

invested value in their homes as well, and every economic interest in the community suffers to the same degree.

Along with the drastic retrenchment which the adoption of the unions' legislative program would entail, would undoubtedly come the acquiescence of railway owners in any proposal for government ownership of the railways which would enable them to salvage some of their investment. The government could not expropriate the owners without substantial payment. Railway owners would share in the $600,000,000 raid; they would not pay it all. Railway patrons certainly would not assent to paying any of it. For proof of this one needs only to observe their strenuous opposition to meeting by higher rates any of the cost of the restoration of the 1929 wage level by the railways which is now in progress.

A Bad Augury for Successful Government Ownership

If railway patrons will not yield the tribute which the labor executives demand, and if railway owners are not to be completely expropriated, then the burden of the six-hour day, the "full" crew requirement and train length limitation must be met by discharging railway employees and, under government ownership, by meeting railway deficits out of the public treasury. Advocate of public ownership though he has been, Co-ordinator Eastman in his address to the labor executives at Chicago last week clearly recognized the latter alternative when he said: "If the government is to operate an industry, it is essential that it follow the sound principle of making that industry self-sustaining if that is in any way possible. It would be ruinous to let it become for any length of time a charge against the taxpayers, for once that habit is started it is very difficult to break, and it is infectious." To anyone who has observed government ownership of railways in Canada, and from our own experience with highways and waterways, the truth and wisdom of Mr. Eastman's caveat is evident. *Government ownership of railways in this country, if it comes, will be adopted not as a considered policy, but simply as an expedient by which an enormous wage increase to workers already highly paid may be passed along to the taxpayers.*

Railway employees with steady jobs constitute today a privileged class in our economic system—and many of them are sensible enough to know it. Their wages are only 5 per cent less than at the 1929 peak, making them almost unique among any important economic group in the country. Their earnings purchase far more than they ever have purchased before. They are comfortable and, barring disruptions such as contemplated by the unions' program, the jobs of most of them are secure. There is, to be sure, another side to the picture—and that is the hundreds of thousands of unfortunate employees who have been furloughed or dismissed, many of whom were forced to sacrifice all income so that those who stayed at work could enjoy a higher *real* income than they ever had before. Now, the labor executives propose to jeopardize the jobs of many of the fortunate employed and the life of the communities where they dwell in order to carry out a gigantic raid on the treasury of a prostrate industry. Are the safely employed willing to assume the risk?

And be it noted that the labor program is designed primarily to improve the position of the very class of railway labor which even now has the shortest hours and draws the highest pay. The "full" crew requirement and the limitation of train length are proposed entirely in the selfish interest of train and engine service employees. The six-hour day would not curtail the time actually worked by these employees in the slightest; trains would still operate from terminal to terminal as they do now. The only effect of the change in the basic day would be to increase the overtime payments to these employees. And yet clerks and shopmen and all other classes of employees are asked to risk their jobs to support measures the benefits of which would accrue largely to employees who already enjoy better hours and wages than they do.

Train Service Would Lose Bargaining Advantage

Would government ownership benefit train and engine service employees? Let any of them who think so recall what happened during the Railroad Administration. Was it train and engine service or the more numerous lower paid workers who got the favors then? The vote of a section hand is just as good as that of a passenger engineman. If we are to have government ownership and political determination of railway wage policies, then train and engine service men will lose their strategic bargaining power which has enabled them to establish and maintain the differentials which now separate them so widely from most other classes of railway workers, both in wages and in working conditions. Is this advantage, which will be lost whenever political voting power succeeds collective bargaining as the determinant of railway wages and working conditions, to be so lightly cast aside by these men?

And this leads us to what we believe is the crux of this whole outrageous scheme—namely the gross immorality of settling questions where the issue is simply one of justice by political methods in which pressure of votes is the sole determinant of the outcome. Do the union organizations believe that they are in justice entitled to shorter hours and more employees on each train and do they believe that trains should be limited in length? Then why have they ignored the elaborate machinery provided under the law for settling such issues outside of politics? These proposals could be made to railway managements and, if agreement were not reached, then the public, under the Railway Labor Act, would have the benefit of a report by an impartial "fact-finding" commission appointed by the President in determining wherein true justice lay. When such machinery exists for dealing with issues of this kind, and it is ignored and resort is had to political action, such procedure can only be compared, morally, with

that of the man who settles a private feud with a shotgun instead of by an orderly process of law. If every issue as to railway working conditions is to be settled, not on its merits, but in proportion to the number of votes it can command, then the Railway Labor Act might as well be scrapped.

Organized Labor vs. Shippers

The railway labor executives appear to believe that they can play the political game successfully, but that no one else can do so. If they persist in this folly to the point where government ownership comes, they will then find out their mistake. Under private ownership it is the railway managements and railway investors who bear the brunt of shippers' attacks on the rate structure. The unions have not had to concern themselves in the slightest degree with the effort to get shippers to pay a part of the restoration of railway wages. The shippers have resisted the increase in rates, but they have considered little, if at all, the items of operating expenses making the increase necessary. The disappearance of managements representing railway owners would leave no buffer between the self-interest of railway employees on the one hand and that of shippers on the other. The unions, if they enjoy their political prestige, had better take care lest they expose it to direct contest with the political power of railway patrons, which under government ownership would inevitably follow.

Railway managements have been severely criticised, not only by shippers, but by impartial economists and students—even those of "liberal" tendencies such as Walter Lippmann and Secretary Wallace of the Department of Agriculture—for the present level of rates and the high wages that have made it necessary. Obviously they cannot defend a further increment in their labor costs. As a matter of fact, since the restoration of the 1929 wage level was conceded in anticipation of an increase in traffic which has not materialized, plans should be made to rescind that restoration as soon as it can legally be rescinded. And the archaic working rules which are proving such a handicap to meeting truck competition should be resolutely attacked. The union executives have, so to speak, "asked for it." Their excessive and anti-social demands ought to serve the purpose of awakening not only the railway industry, but the shipping and tax-paying public as well, to a realistic facing of the whole issue of overhauling railway wages and working conditions in the light of present economic and competitive conditions.

Trust the Employees

Railway employees as individuals—at least by far the majority of them—are not to blame for this situation, nor, we are convinced, will those of them who know the facts follow blindly the union leaders in their folly. To suspect that they might do so would be a calumny upon the finest and most intelligent body of workmen which any industry in the country can show. But they must be told the facts—real facts, and free from cant. If this issue is discussed widely and with absolute honesty and obvious unselfishness, there is no reason to fear the outcome. The facts are simple and the lesson to be drawn from them is clear. The less emotion which is released when they are discussed, the better. The sober and intelligent railroad man can form his own opinion, regardless of what the mutually jealous labor executives in their strivings for advantage over one another may decide to tell him. When factional disorders prove disturbing, then start a war, upon any pretext whatever, in which the factions may be induced to co-operate—this is a maxim of statecraft which is apparently actuating the union leaders in their present program. There just isn't any other explanation for a policy at once so unreasonable, so brazenly selfish in a world of common disaster, and so suicidal, both to the railroads and the unions themselves.

Mr. Eastman to Railway Labor

With credit, enterprise, and proper encouragement and help from the Government and labor, the means of stimulating and increasing railroad business, in my judgment, are or soon will be at hand, and therein lies the greatest hope for railroad employment in the future. . . . If thought and effort can be turned in these directions, and if all concerned will pull together, I have no doubt as to the eventual outcome, although it will, of course, take time. . . .

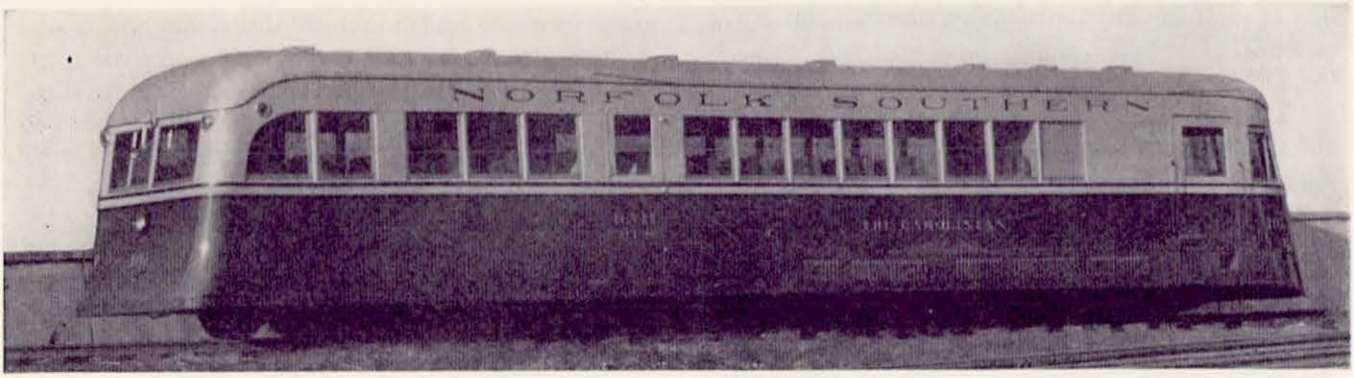
The 6-hour day, unless it is put in at the expense of labor, will add at least $400,000,000 to railroad expenses. The railroads cannot possibly stand that without harm, unless an equivalent burden is put at the same time upon their competitors; and I doubt whether they can stand it without harm even then, unless a like burden is put upon all industry. I say that because of the extent to which transportation is discouraged when its prices get out of line with commodity prices generally. The shortened work-day, if it is anything, is a general issue. It cannot be applied to the railroads alone without disaster.

Take legislation, also, like the full-crew bill or the train-length bill. Perhaps they can be sustained on the ground of safety, although I think you will agree that this is, at least, debatable. But as mere "make-work" measures, what will they do to the railroads in their competition with the trucks and boats and all the other competitive agencies? Has railway labor anything to gain by putting such a handicap on their own form of transportation?

Personally I am convinced that if the railroad industry can cut its costs down and adjust its services to the demands of today, it can employ many more men than it now does. But even if I am too optimistic about that, can it hold its own if it is prohibited from doing what all other industries may do and are doing?

I wish that you would take that question to heart and think it over. You are part and parcel of the industry and you cannot prosper to its hurt.

From an Address Delivered in Chicago, January 12. Reported More Fully Elsewhere in this Issue.



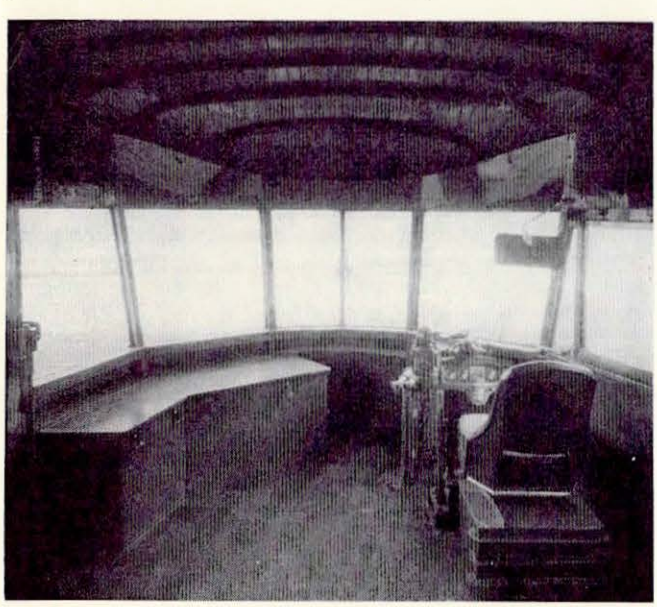
The Norfolk Southern "Rail Bus"

Norfolk Southern Buys Four Light Rail Motor Cars

Designed for single-unit operation, 'Rail Bus' weighs 41,000 lb., is driven by 176-hp. gas engine through mechanical transmission and seats 53 persons

THE Norfolk Southern in the middle of December received from the American Car & Foundry Company the first two on an order of four rail motor cars for service on the company's Carolina lines. Delivery was accepted at the Brill plant at Philadelphia, Pa., and the two cars, operating under their own power, were routed over the Pennsylvania to Norfolk, Va.

These cars are the result of an extended study by the railroad of the requirements for meeting competition by highway vehicles on state-owned and state-maintained hard-surfaced highways, and were developed after extensive collaboration by the engineers of the builders and representatives of the railroad. Experience gained in operation of its subsidiary bus lines and the possibility of operating motor-car units at a low cost per mile and on attractive schedules prompted the company to seek a rail unit which would bring to the rails the advantage of light weight, low first cost, low operating cost and high acceleration. Such a development, it was believed, would be effective on the branch lines and between points on the main line where traffic density is insufficient to justify steam passenger operation or Diesel-powered trains of high first cost. The primary objective was a unit of reasonable first cost and an operating cost, including fixed charges, which can be favorably compared with average operating costs per bus mile and the possibility of attaining a lower cost per passenger mile with suitable schedules.



The Operator's Station

The cars are 56 ft. 7 in. long and are designed for single-unit operation. The floors are 37¼ in. above the rail and the overall height, 10 ft. 4½ in. The cars are 9 ft. wide overall below the windows and slope slightly inward from the window sills to the eaves. The inside width is 8 ft. 6 in. The front end is streamlined and the rear end, while presenting straight lines in plan, is curved and sloped vertically and has well-rounded corners. Seats are provided for 53 passengers and there is a baggage room 12 ft. 11 in. long at the front end of the car. The car weights approximately 41,000 lb. and is driven by a 176-hp. Hall-Scott horizontal gas engine and mechanical transmission suspended under the car floor. It is designed for a top speed of about 65 m.p.h. and its unusually high power weight ratio of 230 lb. per hp. provides for rapid acceleration.

In the construction of the cars liberal use has been made of Cor-Ten steel and aluminum to keep down weight. In general, Cor-Ten steel is used where its added strength or corrosion-resistance warrants its use. Carbon steel is used where weight or size is determined by stiffness or other considerations than strength and corrosion resistance. The design of the cars for opera-

tion as a single unit has obviated the necessity for including a stiff center-sill member. For the underframe and body frame members both rolled and pressed sections are employed as well as some members in truss form. The sides extend below the sill line to within a height of about 12 in. above the rail. The side sheets and letter panels are of aluminum alloy. The roof is of the plain arch type of wood construction covered with Mulehide roofing and is supported by pressed steel carlines.

The cars are arranged in three compartments, with passenger entrance doors located on each side somewhat back of the middle of the car body. The doors are of the automotive parlor-coach type which open outward and, when closed, are flush with the body side sheathing. A stationary step in a well is provided on each side of the entrance platform with low barriers at the step well ending at the aisle in a vertical stanchion of 1-in. pipe of aluminum alloy. The car is floored with $1\frac{1}{16}$-in. yellow pine throughout. The flooring in the passenger compartments, the platform and the step wells is covered with Armstrong linoleum, an embossed pattern in the aisle and a smooth green tone under the seats. The saloon partitions are of solid sheet steel with hardwood swinging doors. The side doors in the baggage room are flush-mounted, sliding type, 3 ft. 4 in. wide.

There are two passenger compartments, divided by the entrance platform. The one toward the front of the car is for white passengers and seats 30 persons. The rear compartment is for colored passengers and seats 23 persons. There are two saloons, one at the front right-hand corner of the white passenger compartment and one at the front left-hand corner of the colored passenger compartment adjoining the entrance platform. The hoppers are of the Rex dry type. At each saloon is a Giessel water cooler complete with alcove faucet and drain, a Finback, Jr., paper-cup container and a receptacle for used cups.

The ceiling is panelled in Masonite Presdwood applied in sections joined at the carlines. It is arranged with an interior monitor effect. Grilles are provided in the side of the false monitor opening into ducts to the Electric Service Supplies Company aerating type ventilators.

The frieze panels, pier panels and upper corner panels are of aluminum. Below the belt rail the inside lining is of Masonite Presdwood applied over a layer of felt insulation. The same material is applied to the sides of the baggage compartment below the windows and the door guards are of light-gage, flat sheet steel. No interior lining is applied to the ceiling, the roof boards showing. The baggage compartment is fitted with the customary hardwood chafing strips.

All side windows have single lift sash set in easily removable guides. The sash have metal frames, each adjustable and designed to be rattle-proof and easy to operate. Six windows are provided around the front end of the car, all except the one on the operator's right having stationary lights set in the body frame. A single drop sash is provided at the operator's side. Two large windows with a vertical dividing rail in the center are provided at the rear of the car. The right-hand window is set stationary in the body frame, while the left window is in two parts, one section adjacent to the center rail being arranged to slide across the other section. The windows directly in front and at the right of the operator are glazed with laminated safety plate glass. All side windows in the passenger compartments are fitted with double-faced Pantasote roller curtains.

The seats in both passenger compartments are Brill No. 309, two-passenger transverse type with individual head rests. A five-passenger transverse seat, similar in construction to the double seats, except that the head rests are omitted, is provided across the rear end of the coach. The seats are upholstered in a machine-buffed leather in a green tone.

A View Toward the Front of the Car Showing the Entrance to the Baggage Room

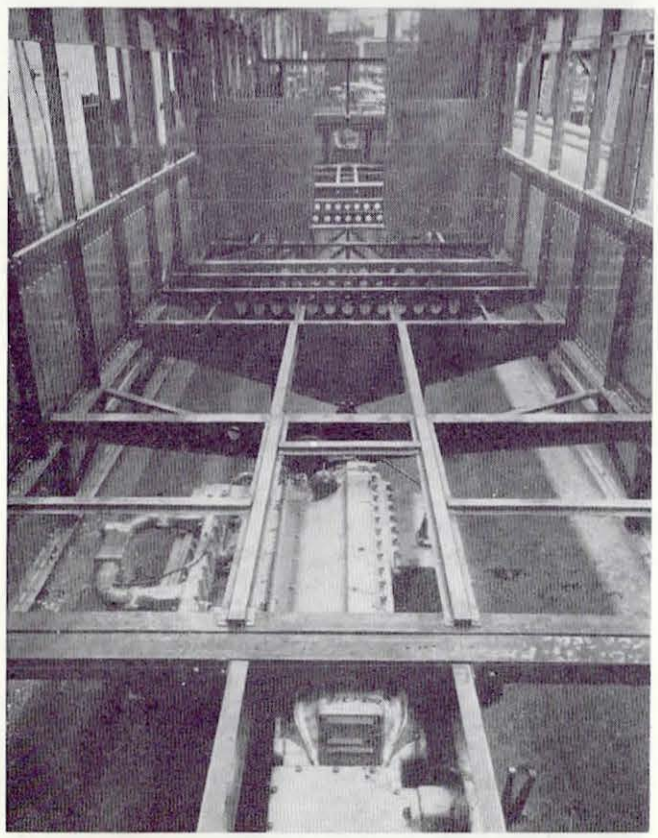
The lighting is provided by 12-volt circuits. There are nine lamps in the white passenger compartment, seven in the colored passenger compartment, two in the center vestibule and three in the baggage compartment. The dome light fixtures in the passenger compartments have frosted diffusing lenses.

The power plant of these cars is of unusual design. It consists of a six-cylinder, Hall-Scott Model 180 engine, which develops a maximum of 176 hp. at 1,800 r.p.m. This engine is mounted entirely beneath the

Looking Toward the Rear End of the Car from the Forward Passenger Compartment

floor; in fact, no space is required above the floor for any of the mechanical equipment of the car, except for the controls adjacent to the operator's station. The engine drives through a three-speed, helical-gear constant-mesh transmission to a single driving axle at the forward end of the front truck. A drive shaft and a propeller shaft lead from the transmission to the driving axle. The drive shaft is coupled to the transmission by a fabric disk joint and is supported at the rear end by a self-alining ball bearing. The propeller shaft is provided with two needle-type universals and slip joints.

The driving axle is provided with a gear case in which are two free running bevel gears meshing with a common pinion. One or the other of the bevel gears is secured against rotation of the axle by shifting a large clutch operating on a splined center portion of the axle, thereby selecting either forward or reverse movement. The



Some Details of the Framing Showing the Engine and Transmission Suspended Under the Floor

operator controls the car from his seat on the right side at the front of the baggage room, through a foot-operated clutch and hand-operated gear shift. The spark control is automatic and the throttle is controlled by a foot accelerator and auxiliary hand control.

Fuel is supplied to the carburetor by a pressure pump from a 100-gallon tank of heavy-gage steel located under the car floor.

A fin-tube radiator is mounted under the car floor beneath the center of the car and behind the engine. The major portion is cooled by draft created by a fan and the remainder by natural draft. The four-blade propeller-type fan is driven from the engine. The car is heated through light fin-tubing radiators along the sides of the passenger compartment, through which water from the engine jacket is circulated.

The trucks are both of Brill design with 6-ft. wheel base and are carried on 30-in. One-Wear rolled steel wheels. The axle for the driving wheels is heat-treated alloy steel of special design to suit the driving mechanism. All axles have Timken roller-bearing journals.

The trucks have cast-steel side frames with integral pedestals and cast-steel bolsters. The power truck is arranged with the bolster off center so that the driving axle carries about 59 per cent of the center-plate lead and 34 per cent of the total car weight. A coil spring is inserted in each pedestal over the journal box. The journal boxes are guided in the pedestal by shear-type rubber blocks, one on each side of the box which, under normal operation, transmit all forces between the axle and the truck frame. In case of excessive lateral forces or high braking pressures, however, the rubber is deflected sufficiently to bring phosphor-bronze pedestal liners into play. Rubber inserts are also provided between the end clips of the springs to insulate the top and bottom sections from each other.

The cars are equipped with Westinghouse SME type air brakes using a self-lapping brake valve. Air is furnished by a 10 cu.ft. high-speed compressor driven directly from the engine shaft. An A.R.A. standard pocket coupler is provided at each end of the car. The coupler heads are removable and intended for use in emergency only. Each coupler pocket is concealed by a removable cover flush with the sheathing.

The cars are fitted with air-operated sanders for movement in either direction and have a Westinghouse Simplex air-operated horn at each end. The E.S.S. Golden Glow headlight and back-up light, as well as marker and classification lamps are all cowled into the car sheathing.

Pullman Sales Increase Carriers' Earnings*

By E. P. Burke†

WITHOUT in any way disparaging the traffic that is carried in coaches, it is my view that the real revenue-producing passenger business of the railroads is in Pullman cars for that is where their long-haul traffic is carried. Under the system of class rates, the task of the ticket seller is not an easy one. Instead of having a single transportation charge uniformly applicable in all equipment, he has a variety of charges with which he must be familiar. However, this very condition presents an opportunity for salesmanship and is comparable to the situation that faces a salesman in any of the ordinary lines of industry where differently priced goods must be handled.

The idea back of the coach fares is to get new rail passengers and certainly not to transfer Pullman traffic to coaches. The railroad salesman should treat these new fares as a commercial salesman would treat a new line of low-priced goods; that is, as something to be sold where price is the important factor and not as a substitute for his regular line which better fits his customers' needs. As in the case of a commercial salesman, salesmen of railroad transportation should realize that the element of cost is not always the controlling factor, that the majority of customers want the best, that it is the best grade goods which most generally bring customer-satisfaction and that margin of profit—measured

(*Continued on page 78*)

* From an address before the American Association of Railroad Ticket Agents at San Antonio, Tex., on November 5 and 6.

† Passenger Traffic Manager, Pullman Company.

Minimizing the Fire Hazard in Timber Freight Piers

Boston & Maine adds final touch to protection afforded in five old piers by providing cellar nozzle holes in decks to prevent flames sweeping beneath

IN LINE with the more general acceptance of cellar fire nozzles as a definite part of fire-fighting equipment by municipal fire departments, the Boston & Maine has made provision for the effective use of this equipment to combat under-deck fires in five of its timber marine piers at Charlestown, Mass. This has involved essentially the cutting of holes in the decks at suitable intervals, and providing them with readily removable covers, by means of which a fire at any point beneath the deck can be attacked and either extinguished or confined to a relatively small area.

The piers equipped with the nozzle holes are those known as the Hoosac piers or docks, immediately east of North Station, the road's main passenger terminal in Boston, but on the opposite side of the Charles river, in Charlestown. These piers, which, together, provide several acres of floor space, are essentially freight piers and handle a large volume of business, both import and export. In fact, while the road has other piers in the Boston metropolitan area, the Hoosac piers are of special importance because of their location in close proximity to the main business and commercial sections of Boston proper.

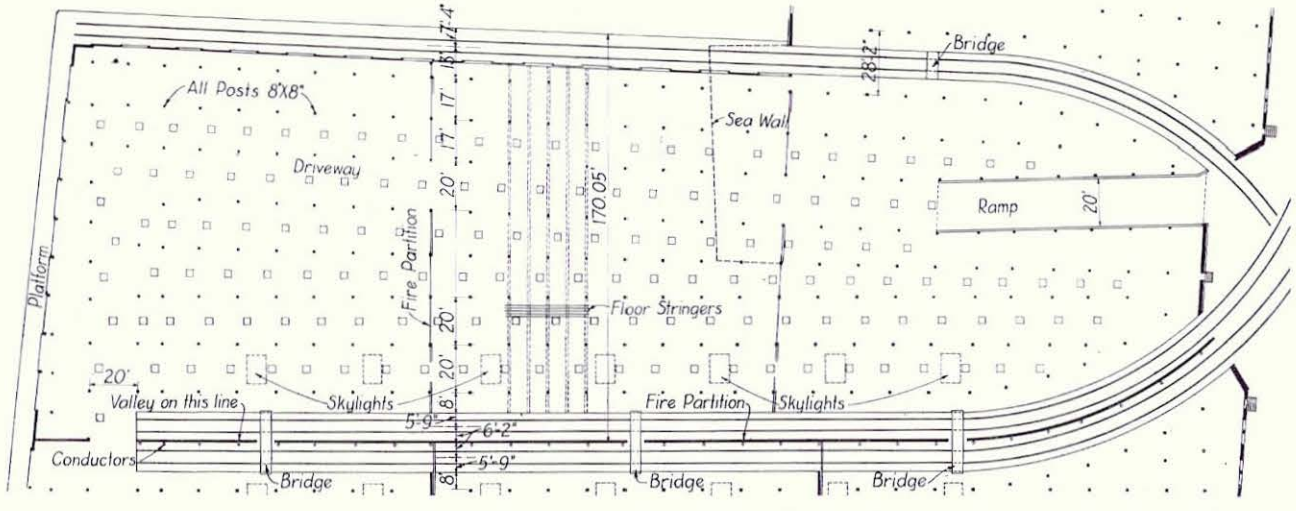
All of the piers are of timber construction, with timber piling and sheds, having been constructed many years ago when pier superstructures of wood were the rule. The decks of the piers consist generally of two layers of three-inch plank, at right angles to each other, spiked to timber stringers supported on the pile bent caps. None of the piers has fire curtains beneath the deck.

By reason of the fire hazard involved in piers of such construction, and the possible serious loss of property and freight which might result in the event of a fire, the road has always given special consideration to the protection of its Hoosac piers against fires, and many years ago equipped them with extensive standpipe and dry-pipe sprinkler systems, automatically controlled and supplied with water from elevated steel tanks which afforded approximately double the pressure available in the city mains. In addition, three different fire alarm systems have been maintained on the piers, including both manual and automatic operation, all of which have direct electrical connection with the Boston Automatic Fire Alarm Company, and through it with the city fire department.

In spite of this thorough protection within the pier sheds, there has always been concern about the possibility of a fire beneath the decks, which fear has not been lessened in recent years by the destruction of a number of piers about the country by such fires. In the case of the Hoosac piers, which are about 80 per cent over water, and at least partially enclosed on the sides by piles and fenders, there was practically no effective way of locating or fighting a fire beneath the deck. The city harbor fire-fighting equipment includes small motor boats, about 14 ft. long, equipped with hose and pumps, which could be used in attacking a substructure fire from the side, but, hampered by the mass of timber in the substructures of the piers, and possibly by high tide which would effectively prevent even their partial entrance beneath the piers, these boats would, at best, be only partially effective.

In view of this situation, the road has provided a system of fire nozzle holes through the pier decks, equipped with readily removable steel covers, which will permit the ready location of any sub-deck fire and attacking it with a deluge of water from cellar nozzles. This arrangement of holes is called a system because each hole was placed with special regard to the location of the pile bents and the floor stringers so as to permit the most effective use of the cellar nozzles.

The accompanying deck plan of Pier 40, one of the



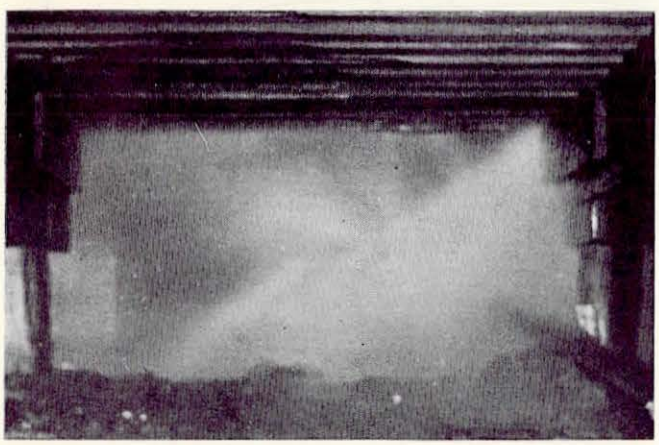
Plan of One of the Boston & Maine Hoosac Piers in Charlestown, (Boston) Mass., Showing the General Location of the Many Cellar Nozzle Holes to Permit Fighting Sub-Deck Fires

Dropping a Cellar Nozzle Through One of the Deck Holes to Demonstrate the Effectiveness of This Means of Sub-Deck Protection—F. R. Bradford, Director of Safety and Fire Protection of the Boston & Maine, is Holding the Hole Cover

Hoosac piers, shows the typical arrangement of hole spacing employed. In this it will be seen that the holes are provided in rows about 10 ft. apart, lengthwise of the pier, and that the holes in each row reach alternate spaces between pile bents. Furthermore, the holes in adjacent rows are staggered with each other, so that all of the bent spaces are reached at about 20 ft. intervals across the pier. There are a number of variations from this arrangement in the different piers, which were necessary to meet special spacing of the bents, etc., but a specific attempt was made to adhere to as uniform an arrangement as possible in order to simplify the locating of the holes in case of a fire. It is recognized that many of the holes may be covered with freight at the time of a fire, which may prevent attacking the fire at the most effective place, but it is felt that sufficient holes have been provided to make it possible to surround and localize any fire, regardless of the occupancy of the deck.

The holes provided in the deck are 8¾ in. square, and were cut with axes after drill holes had been put through at the four corners. The time required to make each hole varied from about 25 to 45 min., depending upon the skill of the workman and the difficulties which he encountered. The cover provided over each hole consists of a ⅜-in. steel plate, 10⅝ in. square, with a diamond tread top surface. It is provided with a 1¼ in. lifting hole in the center, and secured in place against lateral displacement by means of four short lengths of angle irons welded to the under side. Circular steel collars, instead of the angle irons, were provided on the under side of some of the first covers made, but this arrangement was abandoned in favor of the angle irons, as more economical. Altogether, 910 holes were cut in the five pier decks and were fitted with covers at a total cost of approximately $1.75 per hole.

The work was planned under the direction of F. R. Bradford, director of safety and fire protection of the Boston and Maine, and H. F. Fifield, engineer maintenance of way, and was carried out by the bridge and building forces of the road under the direction of T. G. Sughrue, division engineer, and F. C. Brackett, supervisor of bridges and buildings.



One of the Cellar Nozzles in Action, Showing the General Diffusion of the Water Beneath the Deck

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended January 5 totaled 498,073 cars, an increase of 72,953 cars as compared with the week before, which also included a holiday, but a decrease of 2,740 cars as compared with the corresponding week of 1934. As compared with 1933 it was an increase of 58,604 cars. All commodity classifications showed increases as compared with the week before and loading of miscellaneous freight and forest products showed increases as compared with the corresponding week of last year. The summary, as compiled by the Car Service Division of the Association of American Railroads, follows:

Revenue Freight Car Loadings

Week Ended Saturday, January 5, 1935

Districts	1935	1934	1933
Eastern	117,282	118,553	97,352
Allegheny	95,837	99,813	80,181
Pocahontas	36,672	36,229	35,363
Southern	76,358	73,420	71,161
Northwestern	56,890	58,210	49,264
Central Western	72,755	73,127	66,635
Southwestern	42,279	41,461	39,513
Total Western Districts	171,924	172,798	155,412
Total All Roads	498,073	500,813	439,469
Commodities			
Grain and Grain Products	22,009	23,338	24,199
Live Stock	13,820	15,617	15,753
Coal	127,545	131,336	104,689
Coke	7,157	7,615	5,382
Forest Products	16,153	14,865	12,413
Ore	2,448	2,813	1,239
Merchandise L. C. L.	126,951	134,388	133,656
Miscellaneous	181,990	170,841	142,138
January 5	498,073	500,813	439,469
December 29	.....	425,120	454,765
December 22	.....	547,895	531,464
December 15	.....	579,935	559,419
December 8	.....	551,011	541,992

Car Loading in Canada

Car loadings in Canada for the week ended January 5 totaled 33,917 cars, as against 34,362 cars for the first week in 1934 and 29,334 cars for the previous week, according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada		
January 5, 1935	33,917	18,542
December 29, 1934	29,334	17,142
December 22, 1934	41,114	21,352
January 6, 1934	34,362	18,791
Cumulative Totals for Canada		
January 5, 1935	33,917	18,542
January 6, 1934	34,362	18,791
January 7, 1933	26,782	14,995

Labor Leaders Reject Eastman Plea

Union executives press ruinous "make work" program—Would handicap roads further in meeting truck and water competition

IGNORING the plea of Joseph B. Eastman, federal co-ordinator of transportation, before a special meeting of 1,500 representatives of the 21 railway brotherhoods at Chicago on January 12, that the labor organizations abandon their present plans and co-operate whole-heartedly in an effort to revive the railroad industry, the Railway Labor Executives Association later in the same day announced that it will continue to direct its efforts toward securing the enactment of its legislative program into law during the present session of Congress. This reply is in direct defiance to Mr. Eastman's warning that if rail labor presses its demands, immeasurable harm would devolve both on employees and on the entire industry. The special meeting was called to afford Mr. Eastman an opportunity to address railway employees. At the same time, the Railway Labor Executives Association, on January 11-12, formulated plans for securing the enactment of its legislative program.

Mr. Eastman, in addressing the representatives attending the special session, discussed railway labor problems and pointed out the effects that various proposals will have upon the industry as a whole. He spoke in part as follows:

I do not need to tell you that the railroads are now, and for the past four years have been, in a bad state of health. You know it, because you have suffered from it, and very severely. You have been able to maintain your wage rates better than many other workers have, although the average is certainly not high, but wage rates do not tell the whole story. Since 1920, railroad employment has been more than cut in two, and those who have continued to be employed have suffered acutely from furloughs and part time. It is natural that you should be greatly concerned about the future.

Credit Impaired

The railroads borrowed money, often because they could get it in no other way and often because they could get it at a very low rate of interest. Those who loaned the money are entitled to their interest, just the same as those who have loaned money to the United States. There is nothing extortionate or unjust about their claims. Nevertheless, the large amount of indebtedness has hurt the railroads during the depression in the way that debt always hurts a debtor at such times. They could suspend dividends on their stock but not interest on their bonds, and in the endeavor to keep out of the hands of the sheriff many of them have allowed their properties to run down.

I know of no way in which a debtor can be relieved of debt, without the consent of his creditors, except by inability to pay and the process of bankruptcy, or its equivalent. In the case of large railroad companies with bonds widely scattered in many hands, it is ordinarily impossible to obtain any voluntary adjustment. The railroads now in bankruptcy or receivership will undoubtedly be reorganized with debt much reduced through conversion into stock, and others may have to go through the same process. Such reorganizations should help their credit standing in the future, at the expense of many unfortunate people. But it is impossible to cure railroad troubles by this means alone.

No one will buy railroad securities in the future if the roads are able to earn only a bare margin over a debt reduced by the process of bankruptcy. In fact, the effect of such experience upon the stockholders and bondholders whose past investments are wiped out or impaired will be such that prospective investors will require much greater assurance of earnings in the future than they have in the past. Debt reduction will be a helpful thing, but only if accompanied by a prospect of restored earnings in the future. The conduct of railroads by private capital and private enterprise cannot be successful without profit, present or prospective. There is no possible escape from this conclusion, for profit is the cornerstone of the system. It will be necessary, therefore, for the railroads to earn a reasonable profit.

The competitive situation will be improved by such measures, and every form of transportation will share in the benefits. However, these measures will, in my judgment, be only a partial and incomplete answer to the railroad problem. They will not affect at all the tendency of industry to avoid high railroad transportation costs, or, for example, the competition of the private automobile, the pipe line, or the electric transmission line. They will by no means suppress the competition of the trucks, the buses, the airplanes and the water carriers. These forms of transportation provide service that the public wants and they are here to stay.

The main answer to the railroad problem, I believe, lies in the stimulation and regaining and creation of business, by the adjustment of operations, service, equipment and rates to present-day conditions. It is a great mistake to assume that there is just so much transportation to be performed and no more. Suppose there had been such a theory in the stage-coach and canal-boat days, would the railroads ever have been built?

With credit, enterprise and proper encouragement and help from the government and labor, the means of stimulating and increasing railroad business, in my judgment, are or soon will be at hand, and therein lies the greatest hope for railroad employment in the future. In the studies which my organization has undertaken of railroad operation, service, equipment and rates, we have tried to keep this idea uppermost. We have already, I believe, shown some of the possibilities, and we shall show many more before we are through. If thought and effort can be turned in these directions, and if all concerned will pull together, I have no doubt as to the eventual outcome, although it will, of course, take time.

No Time to Add to Railway Expense

Now I may be right in all this and I may be wrong, but in either event what ought railway labor to do? It seems perfectly clear to me that it is no time to add to railroad expense, and that labor will suffer if this is done. Take the six-hour day. The possibilities of consumption in this country have never been remotely approached, and I hope that we can find the way out by increasing consumption rather than by decreasing production. But pass that over. The six-hour day, unless it is put in at the expense of labor, will add at least $400,000,000 to railroad expenses. The railroads cannot possibly stand that without harm, unless an equivalent burden is put at the same time upon their competitors; and I doubt whether they can stand it without harm even then, unless a like burden is put upon all industry. I say that because of the extent to which transportation is discouraged when its prices get out of line with commodity prices generally. The shortened work-day, if it is anything, is a general issue. It cannot be applied to the railroads alone without disaster.

Can Labor Gain by Handicapping Railroads in Competing for Traffic?

Take legislation, also, like the full-crew bill or the train-length bill. Perhaps they can be sustained on the ground of safety, although I think you will agree that this is, at least, debatable. But as mere "make-work" measures, what will they do to the railroads in their competition with the trucks and boats and all the other competitive agencies? Has railway labor anything to gain by putting such a handicap on its own form of transportation?

Now let us consider decreases in expense. There are many which are feasible and which would not hurt service and in many cases would help it. At all events let us assume that there are such opportunities. Most of them would in themselves tend to save labor. Where do the best interests of railway labor lie? Take the case of Henry Ford again. He produced his cheap automobile by the use of mass production and labor-saving methods. The old methods gave much more employment per

car. Would it have been in the interests of labor if he had been prohibited from using his new methods? You know it would not. The vastly increased demand for cars far more than compensated for the labor saved per car.

You may say that this is an extreme illustration. Perhaps it is, although there are many more like it. You may say that it does not apply to the railroad industry. Perhaps not, to the same extent, but I am convinced that the principle holds. The railroad industry will either go forward or it will go back. It cannot stand still under the competition and the other economic conditions which it now has to face. I do not believe that any industry in such a situation can go forward if it is prevented from operating in the most economical and efficient way. Personally I am convinced that if the railroad industry can cut its costs down and adjust its services to the demands of today, it can employ many more men than it now does. But even if I am too optimistic about that, can it hold its own if it is prohibited from doing what all other industries may do and are doing?

I wish that you would take that question to heart and think it over. You are part and parcel of the industry and you cannot prosper to its hurt. You may say that all of the benefits of saving will go to capital and you will get none. It is true that the earnings must eventually get to the point where they furnish a sound basis of credit, but is that opposed to your interests? Supposing they do not get to that point, what will happen then? I am propounding these conundrums because I believe that they are vital to you as well as the country. I hope that you will give them thought.

Sound Pension System Will Be Beneficial

Men who have devoted their lives to an industry and by that very fact may have lost the capacity for other employment ought not to be cast out on the street like an old shoe and without recompense. To provide for them in such circumstances is not a dole but something which they have fairly earned. This principle is gaining recognition very rapidly all over the world. I believe in a sound pension system and think that it will do the railroads more good than harm, if labor-saving improvements are not made impossible. It will provide much of the slack for such economies and at the same time will give younger blood more opportunity in the industry.

I propose a system of dismissal compensation for employees displaced by consolidation or co-ordination projects, such compensation to begin where pensions leave off and to be graded down with age and length of service. It would provide all men aged 60 or over, who might be displaced, the same annuity to which they would be entitled under the pension system at age 65. From this it would grade down, giving displaced youngsters considerably less, and the lesser amounts would be paid in lump sums. I shall not go into details, but they will all be available in the very near future. No one would lose the compensation by reason of securing other employment, but the compensation would in effect be graded in proportion to the likelihood of obtaining other work. The railroads would not at once secure the full benefit of the economies, but they would gain part at once and all in due course. I cannot give you a positive opinion as to the constitutionality of all features of this plan. The decision of the supreme court in the Retirement Case will throw light on that. However, I can say that such legal doubts as exist would attach, also, to the provision for the protection of labor which is now in the Emergency Act and to any other similar provision.

Public Ownership Now a Menace to Taxpayers

Before I close, I wish to say something on the subject of public ownership and operation of the railroads, of which you may have been thinking. I do not have the same fear of that plan that many have. I think it is possible to protect it from politics in the ordinary sense and to provide good and enterprising management. There are, however, some special dangers at the present time which I do fear, and I am unwilling to recommend such a plan unless it is sufficiently backed by a body of public opinion strong enough to afford effective protection against those dangers, and as yet I have seen no satisfactory evidence of such opinion.

What I have in mind, in part, is this. If the government is to operate an industry, it is essential that it follow the sound principle of making that industry self-sustaining if that is in any way possible. It would be ruinous to let it become for any length of time a charge against the taxpayers, for once that habit is started, it is very difficult to break, and it is infectious. If the railroads were to be taken over by the government now, their economic position with respect to competition and other similar factors would remain unchanged. It would, therefore, be necessary for the government, to my way of thinking, to follow much the same course in bringing down costs and modernizing the service as if the roads remained in private hands. In fact, one of the great theoretical advantages of public ownership is that the opportunities for economy would be greater and easier to grasp than under ownership by many independent private companies.

The danger that I see is that there would be peculiar temptation, under present conditions, to look at the matter in a different light, and to utilize the railroads, beyond the limits of any sound plan, as a convenient means of re-employment or of resuscitating the capital goods industries, all to the tune of a large and mounting deficit which the taxpayers of the country would have to meet. This may not appeal to you as a danger of great importance, and it is not the only danger that I see, but I mention it frankly, for I wish you to know what my views on this point are.

Railway Labor Executives' Statement

"The statement made today by the Honorable Joseph B. Eastman will have no effect whatever on the legislative program of the railway labor organizations," reads the reply made by the Railway Labor Executives Association. "Their program has been introduced in Congress and every possible effort will be directed toward securing its enactment into law during the present session of Congress."

The program of the railway labor organizations, the statement continues, is constructive and represents a long step in the direction of national recovery. It contemplates "increasing employment and purchasing power which are recognized as underlying essentials necessary to the restoration and maintenance of national economical stability. In contrast, the principles announced in the address of the Co-ordinator contemplate effecting economies in the railroad industry at the expense of employment and purchasing power. If possible of application, they would result in increasing unemployment, reducing purchasing power and transferring to the shoulders of railway employees the financial obligations of the carriers, for which the employees are in no wise responsible."

The legislative program as outlined by the Railway Labor Executives Association is as follows:

Six-Hour Day

We propose to amend the Act of September 5, 1916 (which established an eight-hour day for employees of carriers engaged in interstate commerce), so as to provide a six-hour day. Our bill contains a provision similar to that embodied in the original Act of 1916, authorizing the President to appoint a commission to observe the operation and effect of the principle of a six-hour day. It protects present standard day's wage and requires an adjustment as to compensation in payment for overtime, so as to maintain the same relation to the standard six-hour day for the measure of a day's work as has been maintained under an eight-hour day provided in the original Act of 1916. Penalties for violation of the Act are also provided.

Full Crew Bill

We are proposing a Full Crew Bill. The safety of employees and travelers upon railroads demands that all trains, locomotives or self-propelled engines or machines, be manned by a full crew of competent employees. The minimum number constituting a full crew is provided for in the proposed bill.

Train Limit Bill

A bill to limit the car length of trains which may be operated upon railroads by common carriers engaged in interstate and foreign commerce also constitutes a part of our legislative program. This bill makes it unlawful for any carrier to operate or permit to be operated freight trains of more than one-half mile in length, but in no event consisting of more than 70 cars, exclusive of caboose. The length of passenger trains operated is limited to 14 cars. Exception is made in case of locomotive failure enroute.

Amendment to Federal Employers' Liability Act

A bill is being introduced in Congress to amend certain sections of Chapter 2, Title 45 of the Code of Laws which covers liability of common carriers by railroad in interstate and foreign

commerce for injuries to employees. These amendments are intended to correct grave injustices that have resulted to railway employees, or their families, when seeking damages in cases of injury or death sustained in service. In such litigation the so-called "fellow servant," "contributory negligence" and "assumption of risk" doctrines are pleaded as defenses by the railroads. The courts have construed this Act over a period of years in such manner as to greatly impair the rights of employees and their families. The proposed amendments are intended to give employees and their families an opportunity to recover damages in case of injury or death without being confronted with the cumbersome and technical doctrines that are included in the present Act and which have been emphasized and expanded by the courts.

Amendments to Hours of Service Law

A bill has been introduced which seeks to amend the present Hours of Service Law by changing from 16 to 12 the number of hours which employees engaged in the actual transportation of passengers or property by railroad are permitted to be or remain on duty, at the end of which time they shall be relieved and not required or permitted to again go on duty until they have had a certain period off duty. The off-duty period as fixed in the present Act is not changed. The present nine-hour on duty period as fixed in the present Act for train dispatchers is changed in the proposed amendment to six hours.

The amendment is introduced as an additional safety measure and in the interest of increased efficiency. Railway employees directly interested in this measure know from experience that the limit of human endurance, within the bounds of safety and efficiency, has been reached when they have directed their energies toward the safe handling of the modern train for a period of 12 hours and that the safety of employees and the traveling public demands that they be relieved from duty at the expiration of 12 hours. These amendments do not contemplate any increase in compensation to railway employees but should result in more favorable and safer operation.

Track and Bridge Inspection Act

We are proposing a bill to promote the safety of employees and the traveling public upon railroads by requiring common carriers engaged in interstate commerce to maintain tracks, bridges and appurtenances thereto in safe and suitable condition. The President is authorized to appoint necessary forces to carry out the purposes of the bill, such forces to be under the Department of Safety of the Interstate Commerce Commission and to function along the same general lines as present forces under the Federal Boiler Inspection Act.

Signal Inspection Bill

A bill has been introduced in Congress with the support of the railway labor organizations which has to do with the proper installation and maintenance of automatic block signals, interlockings, highway crossing signals and other safety devices. This legislation would promote the safety of railroad employees and railway travelers by authorizing the Interstate Commerce Commission, after proper investigation, to require railways to install signal devices and to keep such devices in proper and safe operation. The bill proposes that adequate standards of inspection and maintenance be established by the commission and that these standards be enforced.

Water Resource Planning Recommended

WASHINGTON, D. C.

IMMEDIATE development of plans for the utilization of certain of the Nation's water resources is recommended by the Water Planning Committee in its report to the National Resources Board, made public on January 18. Federal participation with states in carrying out a unified policy with regard to the waters of the Nation is urged by the committee which also proposes creation of an organization for advisory planning of the use and control of water resources. The committee sets forth these four major objectives for the Nation: 1. To develop more productive uses of water, water supply, navigation, power, irrigation, recreation. 2. To eliminate, modify, or neutralize harmful influences of water, such as floods and erosion. 3. To eliminate, modify, or neutralize harmful handling of waters—pollution, waste through run-off and drainage. 4. To accomplish the above purposes effectively from the point of view of technology, geographical conditions, existing public agencies and the intelligent understanding of good-willed citizens.

While the report does not emphasize navigation projects, it contemplates that some of the proposed expenditures for flood-control or other purposes will provide increased navigation facilities, as a by-product, and it says that "cultural and economic surveys should be made, including the relations of the project to agriculture, forestry, transportation, industry, industrial trends, and general cultural development." One section, devoted to "Ports and Port Terminals," says that the federal government might well participate in the matter of port planning and possibly exercise some appropriate measure of operating supervision and leadership. A section on "Costs and Utilities of Water and Land Transport," by Stuart Chase and Robert Lesher, says that "the government does in effect subsidize the waterways," but that "the 'hidden costs' compiled by antiwaterway computers are far removed from the physical facts." Following are some extracts:

The heavy surcharges for "equivalent interest", "equivalent taxes", have no place in a *physical* cost sheet. Amortization of channel outlays has a place, but unfortunately the War Department has never kept its records so that navigation can be differentiated from flood control, national defense, and other outlays. Maintenance of the channel certainly has a place, but again how shall it be segregated from current flood control? Nobody really knows. Again, it is futile to ask any community to scrap a waterway because a lot of money was spent in building it, and an amortization of the principal, applied to current operations, results in a high waterway cost per ton-mile. This is carrying the calculus of profit and loss to fantastic lengths. The waterway is built. It should be abandoned only if its utility is small, or its maintenance cost, when apportioned to current traffic, abnormally high. The same principle applies to railways and highways. *Maintenance*, not amortization of something which has already been constructed, is the deciding factor.

It is a wide-spread opinion that some waterways can legitimately be abandoned on these grounds. More important, proposed waterways should be most carefully assessed for physical cost and utility. Millions of man-hours have been thrown away in the past because of failure to use these criteria.

The state also grants, in effect, a subsidy to the truck and bus. It has been calculated that on a good two-lane concrete road, this subsidy does not exceed $22 per year per vehicle, disregarding interest as an element of cost, and does not exceed $80 including interest. The subsidy for a busy commercial truck with its annual operating expense of $3,000 or more is thus small. If it be objected that the truck cracks up the highways, Mr. Eastman, the Bureau of Public Roads, and various other experts reply that trucks up to 4 tons on pneumatic tires have little effect on concrete roads. They do crack up softer roads, and have in the past caused an extra expense in all highway building of perhaps 15 per cent. It must be remembered, however, that most trucks are private and not common-carrier competitors of railway or waterway, and that motor vehicles are now paying on the average of $43 a year in licenses, gasoline taxes, and property taxes, towards the support of the roads. The case against the highway subsidy is, in our opinion, weak, and growing weaker as more concrete roads are built, more pneumatic tires installed, more taxes and license fees paid.

The financial costs of the several transport agencies which we have examined check in a general way with the man-hour costs exhibited earlier. Railroad and waterway are in the middle of the scale (per ton-mile), with the waterway showing a small saving; the pipe line far down on the cost scale; the truck with the highest cost of all.

Turning to the concept of utility, it is possible to suggest from the point of view of physical costs the advantages and disadvantages of each agency. The railroad will retain for years to come its advantage as the backbone of the transport organism. For the line haul of bulk goods in other than liquid form, it is superior to the waterway because of its flexibility—rails go to 10 times as many places as waterways can go. The truck is superior to both in flexibility, and its field is the expeditious handling of local traffic on door-to-door delivery. It is also sometimes superior in the line haul when questions of time

(perishable goods) or packages and crating costs are involved. The pipe line is the cheapest and most useful of all forms of transport for the limited kinds of goods it can handle.

The pipe line may have a significant future in handling more kinds of goods. The truck is destined to be supreme in local transport, and its function will grow as decentralization gains. The railroad, with lighter equipment and lower costs resulting from the elimination of competitive waste, and with improvement in operation which will reduce switching, terminal, and reclassification costs, will dominate the long haul, delivering to the truck at terminals outside city limits. The waterway will supplement the long hauls on those limited sections of the map where navigable routes obtain without exorbitant outlays for channel maintenance. The social necessity of developing flood control and power will tend to reduce waterways costs for navigation, in that the latter become a byproduct.

In the next few years the transport system may have to adjust itself to these changes and to such external conditions as the gathering decentralization movement, with disruption of accustomed traffic flows, and the equally certain and probably permanent decline in bulk exports, as economic nationalism gains both here and abroad. It thus becomes vitally important that physical necessities of moving the goods with maximum utility should take precedence over the preservation of corporate entities, to the end that anyone, or any combination of transport agencies, may be freely employed to move the traffic. Pending such studies in physical utility and physical costs, and the preparation of records in terms of the five factors we have described, it would be unfortunate to embark on a program of wholesale scrapping of any part of the transport plant, or of large extension of present facilities. The optimum rate of obsolescence and improvement, which not only transport but every modern industry must find, will never be discovered by employing the financial calculus alone.

Pullman Sales Increase Carriers' Earnings

(*Continued from page 72*)

both in dollars and good-will—that is essential to the conduct of any successful business. Let me mention something that I think will illustrate the possibilities in the way of salesmanship from a Pullman standpoint.

Pullman Conductors Excellent Salesmen

A few years ago, on May 1, 1930, to be exact, we decided to offer the traveling public a new feature in Pullman service, known as the single occupancy section. A rate substantially lower than previously charged for the same amount of space was applied. Passengers with lower berth tickets were told by conductors that they could have the entire section at a small additional cost.

When the new rate was adopted, conductors' section sales were about 40 per cent of the total and ticket agents' 60 per cent. The latest available figures credit conductors with about 70 per cent of a greatly increased number of section sales, principally to holders of berth tickets. Stating this another way, ticket agents are now selling 2.40 sections to the one they sold under the old rate, while conductors are selling 90 sections to the one they sold at the old rate. We were selling 76,495 sections a year at the old rate, and are selling 457,633 a year at the new rate.

The great majority of the section sales made by the conductors were to passengers who held berth tickets; in other words, to those who could have been sold sections by the ticket sellers. This is not stated as a criticism of the ticket sellers but as an encouraging suggestion of what can be obtained through the application of a simple principle of salesmanship. It is as easy for the ticket seller to inquire if a traveler wishes an entire section as it is for the conductor, and the results should be equally satisfactory. When we consider that the ticket sellers are supposed to be trained salesmen, we wonder how the conductors have been able to make all of these supplemental sales.

The section illustration could be repeated with other accommodations substituted because sections do not constitute the entire field of Pullman accommodations. Before the adoption of coach-restricted tickets, conductors were able to secure a very substantial amount of patronage from coaches or chair cars for at least a part of the passenger's journey. Transferring passengers from berths or sections to bedrooms, compartments or drawing rooms is likewise an important part of conductors' salesmanship.

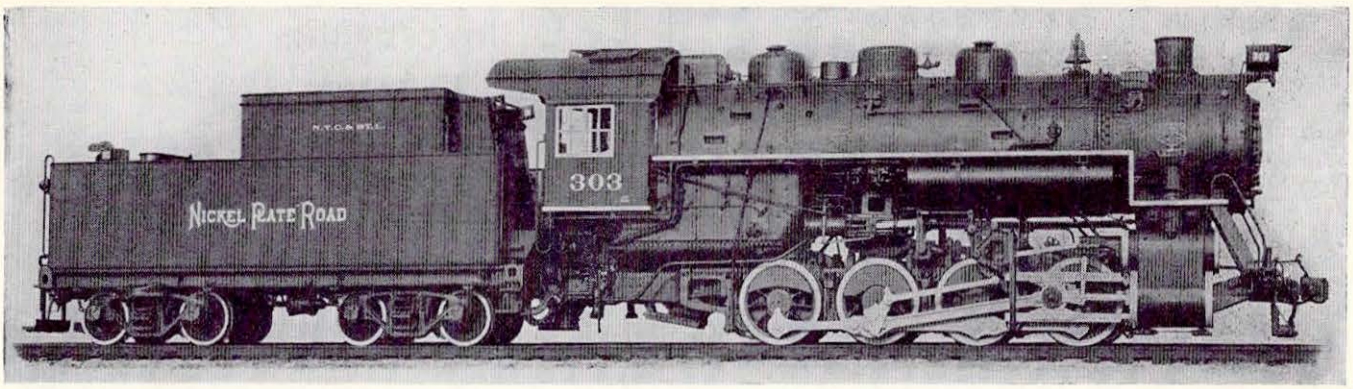
Railroad Earnings Increased by Pullman Sales

Pullman cars are furnished to the railroads under contracts or agreements made by the executives for the benefit of both parties concerned. The railroads decide what cars they want and where they will be operated and the Pullman Company furnishes the cars, fully equipped and manned to handle the patrons of the roads that want that service. It is provided that the railroad ticket agents will sell sleeping and parlor car tickets without expense to the Pullman Company in such offices as the railroad companies may select. The earnings of the cars on each railroad are computed on a per-car per annum basis to determine whether the service has been profitable or otherwise. Where the earnings are below the figure representing approximately the cost of operation, interest on investment and depreciation charges, they are retained entirely by the Pullman Company. Where they exceed an agreed figure, the railroad participates in the earnings of the cars and not only the amount but the proportion received increases as the earnings of the car increase.

This brief and necessarily incomplete picture of a working arrangement that extends over the entire continent under many different traffic conditions, will indicate, I think, that a transportation salesman, in advancing the sale of Pullman service, is directly helping his employer financially, and conversely, by neglecting the Pullman feature is harming his railroad. It requires no deep study to recognize the obvious fact that in the long run, diversion of Pullman traffic to other conveyances —whether to railroad coach, bus, private auto or airplane—can mean only a reduction or discontinuance of Pullman service or else payment by the railroad companies of the difference between receipts and the cost of the service.

Bargain Week-End Excursions

Our experience in the operation of bargain rate week-end excursions the last three years has demonstrated that Pullman service is a necessity to a substantial proportion of railroad passengers. These over-Sunday excursions formerly were handled only in coaches, but with Pullmans added it has been noted quite frequently that there was an increase in the number of passengers from earlier and similar excursions of approximately the load handled in sleepers. Another noticeable feature about this excursion traffic has been the large percentage of women, children and professional men who have been influenced to make their trips solely because they were permitted to use Pullman service. While these joint rail and Pullman excursions have been operated only in a comparatively small section of the country and generally to points of scenic or historic interest, a total of 3,400 sleepers have already been used in such service, with the rather amazing average loading of 26.6 passengers per car.



Heavy 0-8-0 Type Switcher Built by Lima Locomotive Works for the Nickel Plate

Nickel Plate Receives Five Heavy Switching Locomotives

Built by Lima Locomotive Works—0-8-0 type weighs 239,000 lb. and exerts 58,300 lb. tractive force

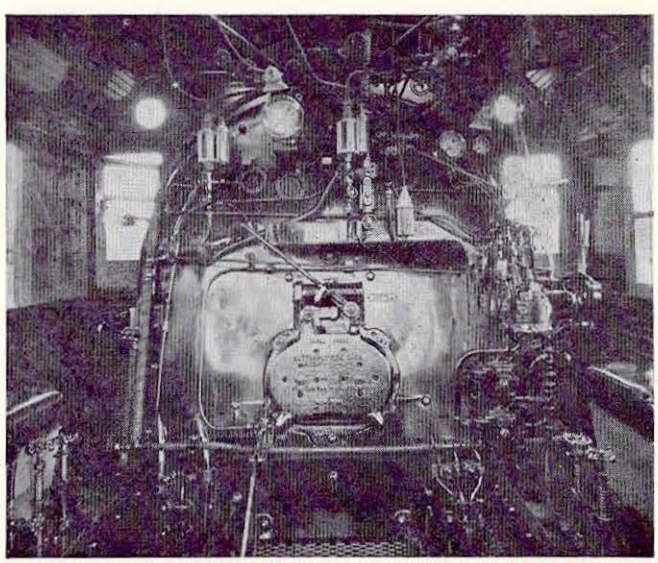
THE New York, Chicago & St. Louis has recently added five switching locomotives of the 0-8-0 type to its motive-power equipment which were built by the Lima Locomotive Works, Inc. These locomotives, designated as Class C-17 and given road numbers 300 to 304, inclusive, weigh 239,000 lb. and have a rated tractive force of 58,300 lb. The boiler carries 200 lb. steam pressure; the cylinders are 25 in. in diameter, with 28-in. stroke, and the driving wheels have a diameter of 51 in.

The last two lots—10 each—of 0-8-0 type locomotives purchased by the Nickel Plate in 1924 and 1925 from the Lima Locomotive Works, Inc., had the same size cylinders and driving wheels, but as they carried 175 lb. boiler pressure the rated tractive force was only 51,200 lb. They weighed from 216,500 to 221,000 lb. and were thus considerably lighter than the switchers just received. These older locomotives carried road numbers 210 to 229, inclusive, and were designated as Class U-3B and U-3C.

The new Nickel Plate locomotives are similar to those built by the American Locomotive Company in 1930, of which 65 were delivered to the Chesapeake & Ohio (including 15 of the Hocking Valley) and 15 to the Pere Marquette. The C. & O. locomotives were numbered from 175 to 239, inclusive, and were designated as Class C16. Locomotives of a similar design were also built by the Baldwin Locomotive Works in 1927 and 1929 and 45 of them were delivered to the Erie. They were numbered from 200 to 244, inclusive, and designated as Class C-3.

Comparing the new Nickel Plate switchers with those numbered in the 200 series of that road, several changes will be noted in addition to increased weight, higher steam pressure, and greater tractive force. Arch tubes in the firebox have been replaced by two Nicholson thermic syphons, on which the American Security arch is carried. The tubes have been increased in diameter from 2 in. to 2¼ in. and the number reduced from 230 to 181. No change was made in the Type A superheater except a slight increase in heating surface, the number of flues remaining at 36 of 5½ in. diameter. The superheater damper has been omitted. The jacket on the sides of the firebox has been carried down from the running board to just above the mud-ring rivets. The boiler feed has been changed from top to side connections. Smoke consumers with steam jets have been added on the sides of the firebox. The outside-connected dome throttle has been replaced by an American multiple-valve throttle in the superheater header. The back end of the main rod is now fitted with a solid, instead of an adjustable, bushing, while the crosshead wristpin is now of the Security type. The turret and valves in front of the cab have been encased.

Alco lateral-motion driving boxes are fitted on No. 1 driving axle, which reduces the rigid wheel base to 10



Back Head of Boiler and Cab Interior of Nickel Plate 0-8-0 Switching Locomotive

ft. In the design of spring rigging, the first and second drivers are equalized with a cross equalizer at the front. The third and fourth drivers are equalized separately on the right- and left-hand sides. Important weights and dimensions are given in the table.

Among the special equipment supplied may be mentioned Baker valve gear; Alco Type E power reverse gear; Firebar grates; Franklin No. 8-A firedoor, adjustable wedges and radial buffer; New York air brake equipment, schedule 6-ET, with one 8½-in cross-compound air compressor; Flannery flexible staybolts; Sunbeam electric headlight; Nathan injectors and three-feed, five-pint hydrostatic lubricators; and Viloco sanders.

Table of Dimensions and Weights of the N. Y. C. & St. L. 0-8-0 Type Locomotives

Railroad	N. Y. C. & St. L.
Builder	Lima Locomotive Works
Type of locomotive	0-8-0
Service	Switching
Road class	C-17
Road numbers	300-304
Rated tractive force, 85 per cent	58,300 lb.
Factor of adhesion	4.11
Cylinders, diameter and stroke	25 in. by 28 in.
Valve gear, type	Baker
Valves, piston type, size	14 in.
Maximum travel	6¾ in.
Dry pipe	7½ in.
Weights in working order:	
On drivers	239,000 lb.
Total engine	239,000 lb.
Wheel bases:	
Driving	15 ft. 0 in.
Rigid	10 ft. 0 in.
Total engine	15 ft. 0 in.
Wheels, diameter outside tires:	
Driving	51 in.
Journals, diameter and length:	
Driving, main	11⅛ in. R.—11 in. L.
Driving, others	10⅛ in. R.—10 in. L.
Boiler:	
Type	Straight top
Steam pressure	200 lb.
Fuel	Soft coal
Diameter, first ring, outside	79 13/16 in.
Firebox, length and width	108⅛ in. by 66¼ in.
Combustion chamber	None
Tubes, number and diameter	181—2¼ in.
Flues, number and diameter	36—5½ in.
Length over tube sheets	15 ft. 0 in.
Grate type	Firebar
Grate area	46.9 sq. ft.
Heating surfaces:	
Firebox	186 sq. ft.
Syphons	54 sq. ft
Firebox, total	240 sq. ft.
Tubes and flues	2,360 sq. ft.
Total evaporative	2,600 sq. ft.
Superheating	637 sq. ft.
Comb. evaporative and superheating	3,237 sq. ft.
Special equipment:	
Brick arch	Yes
Superheater	Type A
Feedwater heater	No
Stoker	No
Booster	No

The Commonwealth Railways of Australia for the year ending June 30, 1934, reported a deficit after interest charges of £487,949 as compared with a 1932-33 deficit of £492,475. This improvement of £4,526 in net results as compared with the previous fiscal year was due to an £11,390 reduction in interest charges, the 1933-34 operating deficit having been £6,864 in excess of that for the year ending June 30, 1933. Not since the year ending June 30, 1929, when net operating revenues of £5,443 were reported, have these Australian government railways realized a net from operations. The operating ratio, however, has improved steadily in recent years, having fallen from a peak of 148.36 in 1930-31 to 112.76 in 1932-33; it was 114 for the year under review.

I. C. C. Investigates Passenger Fares

Washington, D. C.

Hearings in connection with the Interstate Commerce Commission's general investigation of passenger fares and surcharges throughout the United States were begun before Commissioner Porter and a committee of state commissioners on January 16, having been postponed to await the completion of the investigation which Co-ordinator Eastman's Section of Transportation Service has had under way for the past year of the handling of passenger traffic and ways by which the railroads may regain some of their lost passenger business. The investigation, as outlined in a notice issued by the commission last October, involves questions as to whether present fares and surcharges are reasonable, whether maximum fares only should be fixed or whether minimum fares should be prescribed, whether different fares should be charged in coaches and Pullman cars, whether passenger rates should vary by territories, and "all other questions which may require consideration in order to insure a complete determination of the fares to be charged passengers by rail."

Coach fares now range from 1½ cents a mile in the South to 2 cents in the West and 3.6 cents in the East, although the Eastern roads make so many special and excursion fares as to produce an average of 2.07 cents a mile (in 1933), which is slightly less than the average for the United States of 2.08 cents in all passenger cars. It is understood that some of the commissioners, at least, believe that the railroads would obtain better results from a uniform rate of 2 cents a mile at least for coach passengers. Statistics introduced at the opening session indicated that passengers are now carried at a deficit and that the average expense was 2.85 cents per passenger mile in 1933 but others were also presented showing that passenger traffic has increased under reduced rates in the past year and that the average costs are greatly reduced as the number of passengers per car is increased. These showed that with an average of 15 passengers per car the cost would become about 2 cents a mile and that with an average of 30 per car it would be reduced to approximately 1 cent. The average for 1933 was 10.2 passengers per car.

Dr. M. O. Lorenz the First Witness

The first witness was Dr. M. O. Lorenz, director of the commission's Bureau of Statistics, who presented a compilation of passenger traffic statistics from monthly or annual reports filed with the commission and designed to show the trend since 1923 in the volume of passenger traffic, revenues, and operating performance. The trend in the revenues, expenses, and net revenue is also shown for the freight service in contrast with the passenger and allied services. The introductory statement included the following:

The total *passenger train miles* increased from 1923 to 1926 but by 1929 had fallen slightly below the 1923 figure, and sharply declined each year thereafter, the 1933 total being 32.0 per cent below that for 1929. Motor car train miles increased steadily from 1923 to 1931, but declined in 1932 and 1933. In 1923 they were 3.1 per cent of the total passenger train miles and in 1933 14.8 per cent.

The passenger *coach miles* declined each year from 1923 to 1928, increased somewhat in 1929, and then declined, reaching a figure in 1933 that was 30.3 per cent below that of 1929. *Sleeping car* miles increased steadily from 1923 to 1929, but in 1933 were 40.4 per cent below the total for 1929. *Dining car* miles also increased from 1923 to 1929. In 1933 their total was 37.6 per cent below that for 1929. Other passenger train car-miles

(*mail, express, etc.*) reached a peak in 1929, and in 1933 totalled 31.5 per cent below the 1929 figure. *Motor car miles* increased rapidly from 1923 to 1931, when they were 5.2 per cent of the total passenger train car-miles. In 1933 they were 11.3 per cent below those of 1931, but were 5.9 per cent of the total passenger train car miles.

There were more *car-miles for each passenger train mile* with locomotives in 1933 than in 1923, but the increase was in other than coach miles, which declined from 2.41 per train-mile in 1923 to 2.21 in 1933.

Commutation passengers declined in number less rapidly than did other passengers from 1923 to 1933. In the Eastern district commutation passengers exceeded other passengers in each of the years 1923 to 1933, and in 1933 were nearly twice the other passengers. In the South and West commutation traffic is relatively less important than in the East but began to exceed other passengers in number in 1930.

In passenger miles, the commutation traffic is less important than the "all other," being 36.8 per cent of the two classes combined for 1933 in the East, 9.8 per cent in the South, and 12.8 per cent in the West. The *other than commutation passengers* declined each year in each district without interruption from 1923 to 1932. In 1933 there was a further decline in the East and West but not in the South, where the number increased 59.6 per cent. In *other than commutation passenger miles* there was a general and nearly uninterrupted decline from 1923 to 1932, with a small further decline in 1933 in the East and West, and a 13.4 per cent increase in the South. But compared with 1923, the 1933 figure was most favorable in the East, the per cent of decline 1933 under 1923, being 57.4 per cent for the East, 64.9 per cent for the South, and 65.9 per cent for the West. In the first 6 months of 1934, all districts show an increase in passenger miles compared with the same period in 1933, with the largest relative increase in the South.

The *average journey* (excluding commutation) has greatly increased since 1923 in the South and West, but not in the East. This refers to journey on each railway, not the through trip where two or more railways are involved.

The *other than commutation passenger revenue* in each district shows a decline in almost every year from 1923 to 1933. For all districts the passenger revenue fell 73.8 per cent in the ten year period. Each district shows a small increase in the first half of 1934 compared with the same period in 1933. From 1923 to 1934 (first half) the *other than commutation passenger mile revenue* fell 21.1 per cent in the East, 44.3 per cent in the South and 42.6 per cent in the West. The increase in the *revenue per passenger* (excluding commutation) for a part of the 10 year period reflects the loss of short haul traffic.

From 1923 to 1933, the *revenue per passenger train mile* fell 45.1 per cent in the East, 58.4 per cent in the South, and 54.8 per cent in the West. Neither the train-miles or car-miles have been curtailed as rapidly as the passenger miles have declined. The railways were getting *more miles per day* from *active passenger locomotives* in 1933 than in 1923, but not from the average locomotive when the stored locomotives are included in the computation. There has been a reduction in the *coal consumption per passenger train* car-mile. The number of road passenger locomotives on line declined in the period, 1923 to 1934 (first half), by 34.9 per cent in the East, 16.6 per cent in the South, and 39 per cent in the West.

When the total operating expenses are distributed between freight service on the one hand and passenger and allied services (mail, express, etc.) on the other, and comparison made with the corresponding revenues, it appears that there was a net deficit (before meeting taxes, rentals, or interest) in the passenger and allied services in each district in both 1932 and 1933. This does not necessarily mean an out-of-pocket loss, as the expenses include a proportion of common maintenance of way and general expenses. If these were all charged to freight, the showing in 1933 would be a net revenue from passenger and allied services before taxes amounting to $45,377,000 in the East, a deficit of $10,192,000 in the South, a deficit of $21,093,000 in the West, and a net of $14,092,000 for all districts.

In the following table the unit expenses refer to the total operating expenses, including maintenance of way and general expenses, but excluding water line and miscellaneous expenses. The table refers to all districts.

Year ended December 31	Revenue per car-mile for all passenger train cars (Cents)	Passenger revenue per car-mile in passenger service (Cents)	Operating expenses, excluding water line and miscellaneous: Per passenger train-mile	Operating expenses, excluding water line and miscellaneous: Per car-mile of all passenger train cars (Cents)
1929	31.5	35.2	$1.98	28.7
1930	27.0	30.7	1.90	27.7
1931	23.5	26.3	1.81	26.6
1932	20.0	21.7	1.62	24.4
1933	19.1	20.6	1.59	23.8

The figures for expenses for 1932 and 1933 are depressed by the temporary 10 per cent reduction in wages and open to question because of greatly depressed traffic and maintenance. The figures in the third and fifth columns make no allowance for the fact that the dining cars and most of the baggage space pay no revenue. If this fact were considered, at least 2 cents would be added to the figures in the last column to get the average expense of a revenue passenger carrying car-mile.

It is not possible from current statistics to give the car-mile expense separately for commutation, coach and Pullman services. But it is known that the average number of passengers per car in these three services is not the same. It is least for the Pullman. Even if the cost per car-mile is taken as the same in each service, the cost per *passenger-mile* would be highest for the Pullman, lower for coach, and least for commutation travelers.

The following are the occupancy figures currently available:

Year	Passenger-miles per car-mile: All passenger service	Passenger-miles per car-mile: Pullman service	Number of passengers per car-day of sleeping, parlor and observation cars
1920	19.8	*	15.7
1925	14.8	*	11.8
1930	11.3	*	9.4
1931	10.5	9.6	8.5
1932	9.8	8.5	7.6
1933	10.2	8.6	7.6

* Not reported before 1931.

The number of Pullman passengers per car-day without regard to miles run differs somewhat from the Pullman passenger miles per car mile, but the trend is similar. Hence it is plain that there has been a large reduction in average car occupancy both in Pullman and other services since 1920. To what extent the more favorable 1920 averages may again be approached will depend on (a) economic recovery, (b) fare policy and (c) operating efficiency. No opinion is expressed here as to the extent of the influences of these three factors, but the following computation may be of service as showing the operating expense per passenger mile under various conceivable degrees of occupancy based on the car-mile expenses shown in a previous table, plus 2 cents to allow for non-paying space, as explained above.

Average Operating Expense Per Passenger Mile

Average number of passengers per car	If operating expense is 25.8 cents per car-mile 1933 (Cents)	If operating expense is 28.6 cents per car-mile 1931 (Cents)	If operating expense is 30.7 cents per car-mile 1929 (Cents)
30	0.86	0.95	1.02
25	1.03	1.14	1.23
20	1.29	1.43	1.53
15	1.72	1.91	2.04
10	2.58	2.86	3.07
8	3.23	3.58	3.84

It is apparent that a judgment as to the average occupancy that can be attained as a result of any proposed policy as to fares is an essential step if the proposed rates are to be tested on the basis of cost of service. If Pullman car maintenance were included, the above average costs would be increased about 3 per cent.

A. F. White Testifies

A. F. White, assistant director of the Section of Transportation Service, put into the record and explained an elaborate series of statistical exhibits which are part of the appendix of the Passenger Traffic Survey just completed by the Section which was expecetd from the printer before the end of the week. He did not include any of the conclusions or recommendations of the report but some of them were indicated in the statistics emphasized by Mr. White. These showed considerable increases in 1934 as compared with 1933 in the volume of passenger traffic and in passenger revenue following the reductions in fares. One of his exhibits contained a detailed separation of operating expenses for passenger service of various classes, in the preparation of which the section was assisted by a committee of eight statisticians of large roads. Others showed that 3 per cent of the Pullman passengers in 1933 travelled on passes and that 29 per cent of the total passengers carried by the railroads in that year in limited trains were non-revenue passengers. Mr. White also introduced tables comparing the inter-city (exclusive of commutation)

(*Continued on page 87*)

Motor Transport Section

Pick-Up and Delivery Service Upheld

Interstate Commerce Commission renders highly important decision in Boston & Maine Case—Business organizations rallied to support of railroad

THE recent decision of the Interstate Commerce Commission in the case of the Motor Truck Club of Massachusetts versus the Boston & Maine, docket No. 26283, is by far the most important decision yet rendered in connection with pick-up and delivery service. Briefly stated, the commission's decision was to the effect that the rates charged by the B. & M. for the service in question were not unreasonable or unjustly discriminatory. Among other things, the commission also decided that the provision of storedoor service, on shipments moving at l.c.l. commodity rates was not prejudicial; that storedoor service may be provided at some points and not necessarily installed at other equally important points. A significant development, too, was the willingness of important traffic organizations to rally to the support of storedoor collection and delivery service, indicating the popularity of the service with the shipping public.

In view of the character of the organization of the complainant, it is to be assumed that this case represented a direct attack on the legality of railways providing collection and delivery service, and, indirectly at least, upon the whole structure of rail-highway coordination. One of the most important points cleared up was the legality of a railway providing such service at some points on its lines and not at others.

The membership of the Motor Truck Club of Massachusetts consists of trucking firms, tire dealers, gasoline and oil companies, etc., and its avowed purpose is to protect the interests of manufacturers and operators of highway vehicles. As the complainant in this case, it charged that the rates established for the service in question were unjust. It is significant to note that the Boston Chamber of Commerce and the New England Traffic League intervened on behalf of the railroad.

The Rates Charged

Effective May 16, 1932, the B. & M. provided storedoor service on l.c.l. freight, except explosives, live stock and certain other fragile and light and bulky commodities, moving between local points on its line at the regular station-to-station rail rates for hauls not in excess of 150 miles. For hauls between 150 and 200 miles, 5 cents per 100 lb. was added to the station-to-station rail rate, and beyond 200 miles 10 cents was added. Effective July 4, 1932, storedoor service was elaborated and made available on l.c.l. traffic moving between stations on the Boston & Maine and stations in New England on the lines of the Central Vermont, the Maine Central, the Canadian Pacific, the Grand Trunk, the Rutland, the Montpelier & Wells River and the St. Johnsbury & Lake Champlain.

The first storedoor tariff of the B. & M. named a minimum charge of 25 cents per 100 lb. and $1 per shipment, but in the tariff effective July 4, 1932, the minimum charge on local shipments was reduced from $1 to 75 cents per shipment. Shortly thereafter the minimum charges were cancelled entirely and some of the rates reduced to meet highway competition. Effective January 1, 1933, the additions of 5 and 10 cents for hauls beyond 150 and 200 miles, respectively, were cancelled and storedoor service was offered at the regular station-to-station rail rates. On December 1, 1933, the B. & M. joined with the Pennsylvania and the Erie in affording storedoor service on l.c.l. traffic exchanged between their respective lines. On March 31, 1934, the B. & M. provided for additions to the station-to-station rates for storedoor service where the rail hauls exceeded 260 miles, the additions grading upward to a maximum of 10 cents per 100 lb. This tariff also provided that l.c.l. freight would be picked up and delivered at an added charge of 5 cents per 100 lb. when coming from or destined to points from or to which storedoor service

was not offered. At the same time a minimum rate of 30 cents per 100 lb. was established.

There are 539 stations on the B. & M.'s lines and l.c.l. traffic is handled at 509 of them. Originally, storedoor service was available at 140 stations, but at present it is accorded at only 103 stations. This reduction was made because it was found that storedoor service had been established at points where the business did not warrant its continuance.

The B. & M. has never refused to establish storedoor service at any point upon request therefor. It affords this service on about 40,000 shipments monthly, of which 40 per cent is local and 60 per cent joint-line traffic. About 16.7 per cent of all of the B. & M.'s l.c.l. traffic is accorded storedoor service.

Compensatory Rates

The complainant argued that to include storedoor service at the regular class rates results in charges which are non-compensatory for the service performed. It shows that the class rates of the Pennsylvania are generally on a lower level than those of the B. & M., but that the Pennsylvania's rates which include storedoor service are in some instances higher than those of the B. & M. for similar hauls. For distances of 70 to 200 miles the Pennsylvania's rates, including storedoor service, are from one to four cents lower than those of the B. & M. for corresponding distances on the first three classes, but on the fourth and fifth classes they are from one to five cents higher. The latter situation resulted largely from the fact that, at the time of the hearing, the Pennsylvania's minimum rate for storedoor service was 35 cents per 100 lb., while that of the B. & M. was and is 30 cents. Effective July 1, 1934, the Pennsylvania's minimum rate was also made 30 cents.

The Pennsylvania and the Erie afford storedoor service only on traffic moving under class rates, while the B. & M. performs this service on traffic transported under both class and commodity rates. The l.c.l. ratings on some commodities published in the B. & M.'s exceptions to the official classification range from 33.3 per cent to 85 per cent of the official classification basis. Most of these ratings were established to meet motor-truck competition. Certain l.c.l. commodity rates on boot and shoe factory supplies, maintained by the B. & M. to meet motor-truck competition, are approximately 50 per cent of the rates which would apply under the full classification basis.

Payments to Contract Agents

Certain truck operators at Boston expressed the opinion that any charge less than 10 cents per 100 lb. and 50 cents per shipment was not compensatory for storedoor service at that point. Several of these operators have lost trucking accounts as a result of the B. & M.'s storedoor service. The three trucking interests having contracts for performing the storedoor service of the B. & M. at Boston were paid 7 cents per 100 lb. at the time of the hearing. At other points 5 cents was paid. By reason of the trucking code under the National Industrial Recovery Act, these payments have since been increased to 9 and 6 cents, respectively. One trucker receiving 7 cents per 100 lb. at Boston and another receiving 5 cents at Lowell at the time of the hearing, reported that their contracts returned a profit. The quantity of freight hauled per vehicle per day for the B. & M. in storedoor service ranges from 1,500 to 10,000 lb. At 9 cents per 100 lb., the revenue received by the truckmen from the railroad ranges from $1.35 to $9 per day.

One of the objections to the present operation of this storedoor service is that only one truckman is employed at each point except Boston. The commission held, however, that, since the B. & M.'s liability as a carrier under this service extends to and from the store door, it is entitled, as a matter of law, to select its own agent for the performance of the storedoor service. The B. & M. did not claim that its station-to-station rates, including storedoor service, are reasonable maximum rates, but that they are compensatory. Less than 10 per cent of this railroad's total traffic moves under rates providing storedoor service for distances below 75 miles, and the revenue from shipments at the minimum charge is only 3 per cent of the total from the storedoor traffic.

Shippers Testify

Witnesses for the Boston Chamber of Commerce, an organization of about 2,500 New England business men, and for the New England Traffic League, with a membership of about 150 industrial traffic managers throughout six New England states, testified that these organizations had watched the development of this railroad's storedoor service, and had reached the conclusion that its growth had been beneficial to the shipping public, as it represents an additional and highly efficient transportation agency and affords the public a service for which there is a steadily increasing demand. Both of these organizations have encouraged the development of storedoor service in New England, feeling that it is the duty of the railroads as sellers of transportation to supply the kind of service for which there is a public demand. These bodies regard the providing of storedoor service as a forward step and believe that the service should be extended rather than curtailed. The only phase of the storedoor service which they criticised is the failure to establish such service at common points with the New York, New Haven & Hartford, and the Boston & Albany, particularly at Worcester, Mass., Springfield, Northampton, Lowell and Fitchburg. The New Haven and the Boston & Albany do not provide storedoor service.

The B. & M. admitted that there has been a demand for storedoor service from industries located at these common points, and that the establishment of such service is practicable and would be warranted. It has refrained, however, from establishing the service at those points out of deference to the New Haven and the Boston & Albany. No shipper from any of the common points appeared as a witness and there was no evidence of injury by reason of the absence of storedoor service at such points. Under these circumstances, the commission ruled that no undue prejudice or preference existed.

The transportation manager of the Associated Industries of Massachusetts, a voluntary association of about 1,240 members engaged in manufacturing, testified that the transportation department of that association has been urging the desirability of storedoor service in New England since about 1920 and that the transportation committee of the association was convinced that the storedoor service performed by the railroad was a desirable one and should be encouraged.

Shippers' Allowances

This witness expressed the opinion that storedoor service should not be made optional, for the reason that such an arrangement would introduce the question of allowances, with possibilities for discrimination and rebates, and probably militate against the efficiency of the service. The complainant took the position that in order to avoid violations of the act, allowances should

be made to shippers who do not avail themselves of the storedoor service.

No obligation rests upon a railroad, either at common law or under the Interstate Commerce Act, to effect delivery or receive freight at the shipper's store door, and accordingly there is no requirement that an allowance be made to a shipper for performing such service.

Some practical objections advanced by the B. & M. against making allowances where storedoor service is performed by shippers or independent truckmen are that the object of storedoor service is to enable the railroad to offer a complete transportation service from door to door, performed by it and under its control; if storedoor service were arranged on the basis of making an allowance to shippers who perform their own trucking, the net result would be a horizontal reduction in the l.c.l. rail rates; and greater efficiency can be developed if the co-ordinated truck and rail service is under the direct supervision of the railroad.

The B. & M. Transportation Company

The railroad's subsidiary, the Boston & Maine Transportation Company, performs services on its own account in competition with independent trucks at comparable rates; trucking, in lieu of rail service, traffic offered on railroad bills of lading and handled at rates provided in B. & M. tariffs; and trucking to and from Boston traffic interchanged at that point with coastwise water lines and moving under joint tariffs of the transportation company and the coastwise lines filed with the Shipping Board. The transportation company owns no trucks of its own and conducts its operations by contract with independent truck operators. It was formed in 1925 and conducts both truck and bus operations. The trucking operations have shown a profit. The bus operations have been conducted at a loss, as a rule, for the reason that the substantial part of such operations have been to replace unprofitable train service. Any deficits are made up by the railroad. The investment of its funds in the stock of the transportation company and the advances made to cover deficits are not in themselves unlawful, and there is no violation of the Act if such transactions are accounted for in compliance with I. C. C. accounting regulations.

Commission's Conclusions

What the complainant really asked the commission to do was to exercise its authority to prescribe minimum rates. This power, the commission stated, should be exercised only where necessary in order to avoid substantial public injury. In this case, the minimum charge is 30 cents per 100 lb. If half of that, 9 cents at Boston and 6 cents elsewhere, is paid to truckmen for storedoor service, 15 cents is left to the B. & M. No evidence was advanced indicating that the traffic in connection with which this storedoor service is rendered does not pay its own way; in other words, that the revenue result under the minimum charge or under any of the applicable rates in connection with this service has the effect of casting a burden upon other traffic.

A number of times in recent years the commission has expressed its approval of experiments being made in the use of motor trucks and buses to supplement or in substitution for railroad service, and has stated its attitude clearly, as follows:

> Storedoor delivery is today receiving the earnest consideration of railroad executives and shippers' representatives, as well as ours. Storedoor delivery would mean quicker and better service to the shipper, with a great saving of time, elimination of terminal congestion, consolidation of freight into fewer cars and reduction in use of stations and cars for storage.

The B. & M. storedoor service is still in the experimental stage. As the railroad gained experience since the inauguration of this service, it modified its rates, charges and regulations governing it. The testimony of witnesses for a large portion of the shipping public using this service is that it is necessary and desirable in the public interest. Accordingly, the commission decided as follows:

"We believe that the defendant should not be hampered in continuing the service in the absence of a clear showing that some provision of the law which we administer is being violated. Upon this record no such a showing has been made. We find that the assailed rates and charges are not shown to be unreasonable, unjustly discriminatory, or unduly prejudicial. The complaint will be dismissed."

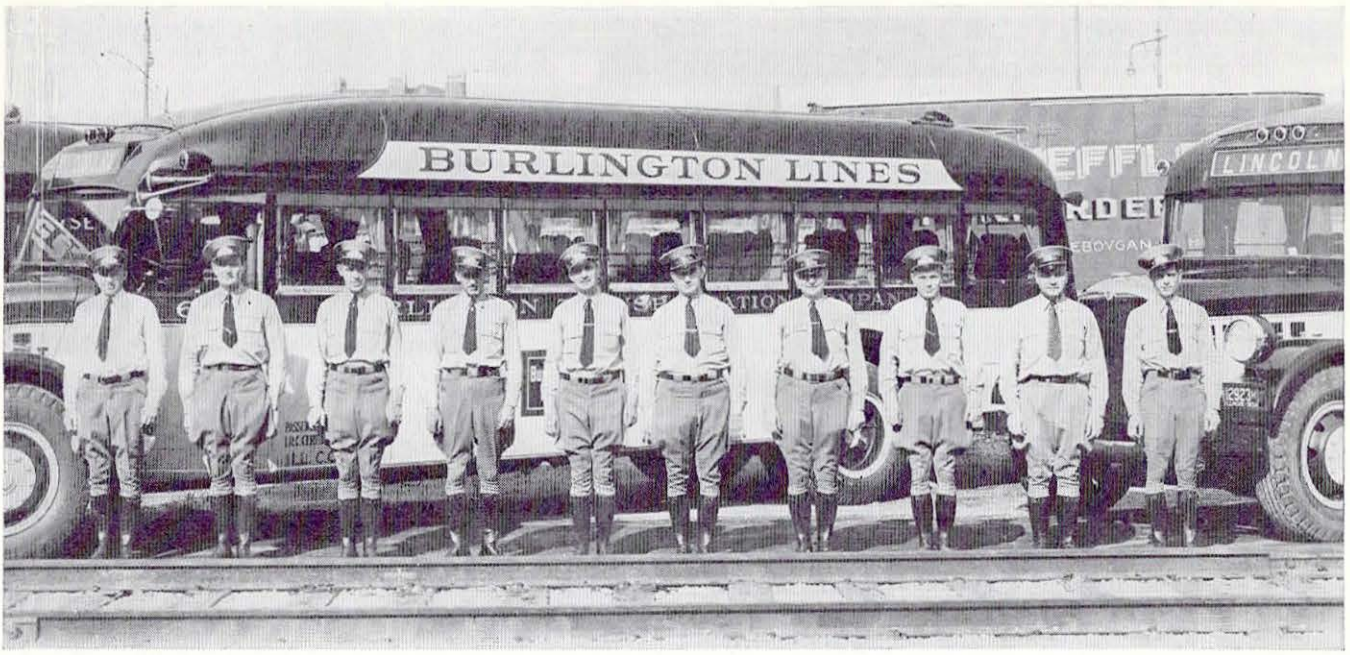
New International Streamlined Models

THE International Harvester Company, Chicago, has introduced a line of new streamlined trucks, which includes models ranging from one-half to five tons in capacity. All of these new models are of the same streamlined design, which is carried out in cabs and in

The New Streamlined International Model C-55 Is Rugged and Attractive

panel bodies. Suitable body types to meet all hauling requirements are available for each of the new Internationals.

Another factor which contributes to the attractiveness of the new models is the finish. The International Harvester Co. has recently installed, at its motor truck works, equipment for applying and baking the latest type enamel finish, which is said to hold a permanent gloss after the trucks are in service. Chassis, cabs and the various body types are available in a wide selection of colors.



Types of Manpower and Equipment Being Used on Pacific Coast Route of the Burlington

Burlington Coaches Reach the Pacific

Chicago-Los Angeles bus service begun on December 31 represents a new departure

THE Burlington Transportation Company, highway subsidiary of the Chicago, Burlington & Quincy Railroad Company, began the operation of through bus service between Chicago and Los Angeles on December 31. This is not only the most important development in rail-highway passenger service co-ordination in recent years, but it marks the first time that a railway has extended its highway operations beyond its own line to this extent.

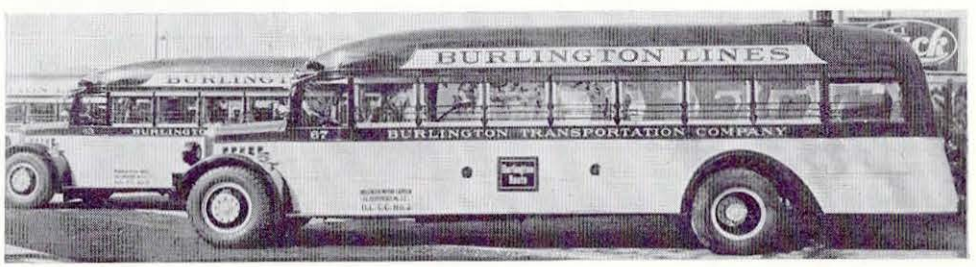
In the final analysis, however, it can hardly be said to constitute an extension beyond the boundaries of the transportation field served by the Burlington, since this railroad has for years been an important transcontinental artery for the handling of passengers and freight from and to the Pacific Coast.

Details of Operation

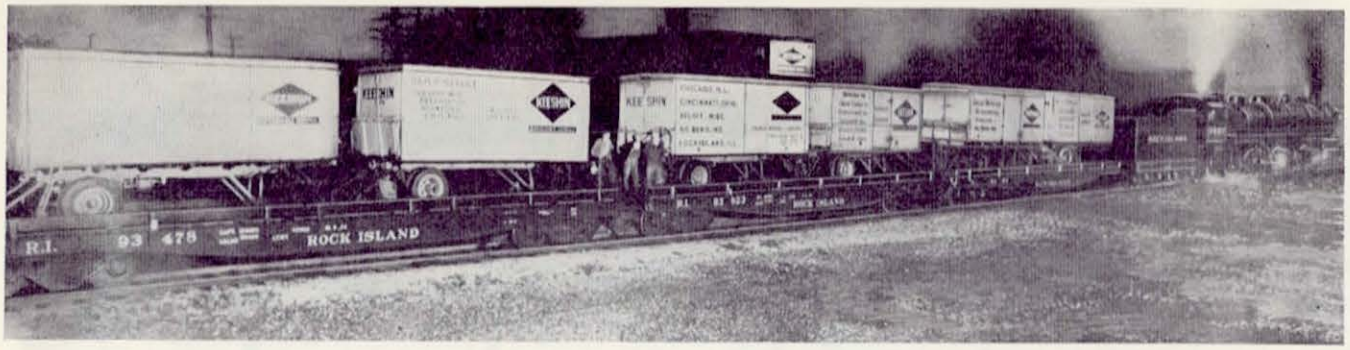
Following the purchase of the franchise, but not the equipment, of the Columbia-Pacific Night Coach Co., the Burlington extended its service to include the Omaha-Los Angeles route, hitherto not served by its coaches, via U. S. 30, Omaha to Salt Lake City, and U. S. 91 beyond. The through Chicago-Los Angeles service is on a 71-hour schedule, which is some hours faster than any other bus schedule between these two points, and, in the first few weeks of operation, no difficulty has been experienced in meeting the schedule.

For the present, daily service is being provided on the Chicago-Omaha section of the run, with tri-weekly service between Omaha and Los Angeles. The Burlington Transportation Co., has, however, ordered ten new streamlined General Motor coaches, generally similar, but with certain improvements, to the eight new coaches purchased from the same company last year, when the first through runs were started in the Middle West. As soon as the new units are received, they will be placed in service on the Pacific Coast routes to provide for daily service instead of tri-weekly as at present. It is expected that this schedule change will take place shortly after February 10.

The new service is the development of experience in coach operations extending over a period of six years. Early in 1929, the transportation company came into being with the inauguration of three routes in Nebraska. The development during that year was rapid, and, at the beginning of 1930, the company owned 37 motor coaches



Modern Coaches Are Used on the New Through Runs



Manner in Which the Trailers Are Handled

and was operating 5,281 bus miles daily, covering 858 miles of highways in Burlington territory, of which 592 miles had not previously been served by motor coach lines.

Continuing the development, the transportation company was operating 1,024 miles of bus routes at the end of 1930, with an average of 5,317 miles per day. In the following years, until 1934, little further expansion was made, both because of business conditions, and because the limit of profitable train replacements had been reached.

On April 9 last year, however, the transportation company inaugurated a new policy by providing for through runs between Chicago and the Mississippi river, and a few months later, through service between Chicago and Omaha was started. These through runs were established to meet the public demand for bus service, which, the Burlington felt, should be met by its organization, with its long experience in providing transportation to the public of the territory served.

The present expansion is the outgrowth of this steady development over a six-year period, and it may well be regarded as the forerunner of the expected renewed interest on the part of the railways in motor coach transportation.

Rock Island "Ferry Service" for Truck Trailers Successful

THE "ferry" service for truck trailers inaugurated on June 12, as announced in the *Railway Age* of June 24, has now passed out of the experimental stage and forms an integral part of the service of the Chicago, Rock Island & Pacific and of the Keeshin Motor Express Company; as well as several other highway trucking companies which have recently begun to take advantage of this service.

The service was originally started at the request of the Keeshin Motor Express Company, which offered to use the railroad for the movement of its highway trailers across Illinois, if the rail rate did not exceed the cost of highway operation, namely, 11⅞ cents per trailer per mile. It is beneficial to the railway and the motor truck companies both, in that it affords the railroad an opportunity to participate in traffic and the resulting revenues which would not otherwise move by rail, and it enables the trucking lines to provide a more reliable all-year service, since the road hazards are eliminated, and the necessity of handling the trailers over the heavy traffic highways of Illinois is avoided; a valuable feature, particularly on the congested roads leading into Chicago.

The initial ferry service to be established was between Chicago, Ill., and East Moline, loading and unloading docks for the purpose having been erected at both points. The experience gained in a month and a half of this first operation caused the establishment of a similar service between Chicago, Ill., and Peoria. This latter operation was inaugurated on August 1. During the first three months of this operation, 1,120 cars, or 2,240 trailers were handled, the revenue to the railroad amounting to nearly $50,000. At the present time, from 14 to 16 cars—28 to 32 trailers—are being dispatched nightly, from the Keeshin company alone, which, with the other highway truck lines now beginning to use the service, means an additional revenue to the railroads of approximately $200,000 per year gross.

The docks constructed at each of the three terminals named are situated at the end of team tracks, and are equipped with ramps so that the trailers may be run on to and off the flat cars by the same tractors that handle the trailers in their further movement over the highways.

The flat cars used in this service are standard equipment, with the addition of chains and blocks for anchoring the trailers, and tailgates to provide a further safeguard, each car having a capacity of two trailers.

A fast, overnight service also provides an attraction for the use and extension of these operations, the loaded cars leaving as late as 9:15 p.m., and arriving at their destination by 5:30 a.m., thus enabling the motor truck companies to affect city deliveries by 7 to 8 a.m., and permitting an early start on such trailers as are scheduled for highway movement beyond.

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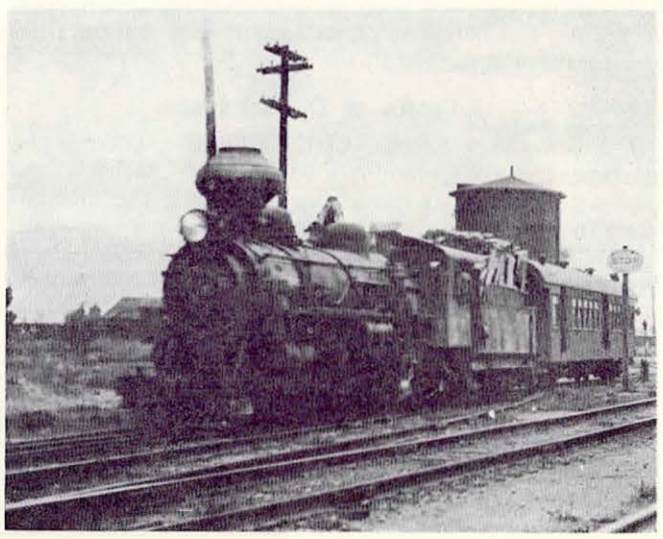


A Wood-Burning Locomotive of the Sumpter Valley at Baker, Ore.

I. C. C. Investigates Passenger Fares

(*Continued from page 81*)

traffic of the railways, highways (buses) and airways, and railway passenger revenues, expenses, and car occupancy, as follows:

Intercity* Passenger Traffic—1933

	United States (Millions)	Eastern District (Millions)	Southern District (Millions)	Western District (Millions)
Passengers Originated				
Railways	151.1	103.6	21.3	26.1
Highways ...	35.1	20.7	3.4	11.0
Airways	0.5	0.2	†	0.2
Passenger Miles				
Railways	12,033	6,006	1,822	4,205
Highways	3,406	1,427	627	1,351
Airways	175	66	14	95
Passenger Revenue				
Railways	282	159	36	87
Highways	47	24	6	17
Airways	10	4	1	5
Passenger Revenue per Mile‡	(Cents)	(Cents)	(Cents)	(Cents)
Railways	2.34	2.65	1.95	2.07
Highways	1.37	1.68	0.99	1.23
Airways	5.90	6.38	5.89	5.60

* Excluding Commutation Traffic.
† $30,000.
‡ Not including dining and buffet revenues.
Source: Carriers' returns to Federal Coordinator's Inquiries by 119 Passenger carrying Class I Railways, 256 Bus Lines and 35 Air Lines. Air Line data for some of the companies obtained from records of the Department of Commerce.

Railway Passenger Revenues, Expenses and Car Occupancy — 1933

	United States (Cents)	Eastern District (Cents)	Southern District (Cents)	Western District (Cents)
Revenue per Passenger Mile				
All* Passenger Cars.	2.08	2.07	2.14	2.08
Coaches — Suburban	1.33	1.34	....	1.19
Coaches — Other..	1.88	2.05	1.67	1.66
Reserved† Cars	2.97	3.24	2.81	2.63
Expense per Passenger Mile				
All* Passenger Cars.	2.85	2.39	4.16	3.90
Coaches — Suburban	1.52	1.51	....	1.63
Coaches — Other..	2.73	2.32	3.25	3.31
Reserved† Cars	4.18	3.72	5.10	4.54
Revenues per Passenger Car Mile				
All* Passenger Cars	20.94	27.06	14.11	14.96
Coaches — Suburban	39.42	39.04	.....	46 40
Coaches — Other.	18.82	25.04	13.88	13.56
Reserved† Cars....	18.97	23.83	14.33	15.11
Expenses per Passenger Car Mile				
All* Passenger Cars.	28.69	31.17	27.44	28 00
Coaches — Suburban	45.15	44.06	.....	63.70
Coaches — Other.	27.39	28.33	26.95	27.11
Reserved† Cars....	26.71	27.37	26.00	26.17
Passenger Miles per Car Mile	(Number)	(Number)	(Number)	(Number)
All* Passenger Cars.	10.0	13.0	6.6	7.2
Coaches — Suburban	29.7	29.2	...	39.1
Coaches — Other...	10.0	12.2	8.3	8.2
Reserved† Cars	6.4	7.4	5.1	5.8

* All passenger cars include coaches, parlor cars, sleeping cars, lounge, club, observation and dining cars.
† Reserved cars include parlor, sleeping, lounge, club, observation and dining cars.
Source: Returns of Class I Railways to Inquiry from Federal Coordinator of Transportation.

Dr. Julius H. Parmelee, director of the Bureau of Railway Economics submitted a series of statistical tables showing the financial condition of the railways and including traffic and operating statistics. These showed the railway deficits for recent years and the increases in their operating expenses caused by the restoration of the wage deduction and the increases in prices of materials purchased.

RAILWAY TICKET OFFICES have become theatre box-offices as well under a plan introduced experimentally on January 1 by the London Midland & Scottish of Great Britain, whereby passengers at certain rural stations are able to take out combined travel-and-theatre-seat tickets to London. This plan operates in conjunction with day and half-day excursions to London on early closing days and Saturdays, intending passengers being able to reserve seats at any London theatre, by advance application at the station ticket office.

Odds and Ends . . .

Unusual Passenger

The Frisco claims the individual passenger weight record in the handling of Ruth Geneva Jane Pontico, weight 600 pounds, who traveled from Springfield, Mo., to Florida recently. The little lady was hoisted into the baggage car by means of a strong crane.

Twins

The twin brothers, Tom and Ed Sweeney, are not entering any competition with the Dionne quintuplets. Still, in their modest way, they do claim to be the only twin enginemen employed in the same terminal by any railroad in America. Ed pulls a throttle for the Louisville & Nashville in Louisville. So does Tom.

Gold Rush at Railway Station

Razing of the platform of the old Pennsylvania station gave Atlantic City its first "gold rush" recently, and several hundred men, women and children sifted the dirt all day in search for coins or valuables. Police estimated that a total of more than $200 in coins was recovered. Several persons reported finding pieces of jewelry and one boy discovered a diamond ring as the prize of his hoard.

President-Knight

E. W. Beatty, president of the Canadian Pacific, has been granted royal favor in his recent appointment as Knight of Grace of the Order of the Hospital of St. John of Jerusalem.

To the Canadian Pacific, incidentally, goes the honor of producing the most unique piece of railroad advertising of the year in the form of a 1935 calendar, entirely in Chinese characters, to be seen in practically every Chinese restaurant in America.

Tickets

Next time you hunt for your railroad ticket send up a little prayer of thanks that you're not riding on a Danish line—some Danish railroad tickets measure only 1½ in. by ⅝ in. On the other hand, tickets on the six-mile long Persian State Railways are of the billboard or side-of-the-barn variety, measuring 8 in. by 4 in. In British North Borneo, circular tickets are common. American rail ducats are pretty well standardized, but regardless of the size, shape, color or price they mean that the fellow who owns one is traveling the safest and best way.

England's Traveling Typists

"Lightning Lorna" and her companions, who operate the dictaphone service on two London & North Eastern express trains daily between King's Cross and Newcastle, are reported to have travelled 127,000 miles and to have typed 1,000,000 words. London & North Eastern reports that this dictaphone service, instituted in February of this year, has been extensively used, particularly by regular travelers and foreign tourists. Passengers who dictate letters en route are handed the typed copies before they leave the train, or, if they prefer, letters are posted at the first stop.

The Prize Winner

Buffalo, N. Y.

To the Editor:

When I was a youngster, living on its line, the Norfolk & Western was known as Atlantic, Mississippi & Ohio. Shortly after the Civil War, General William Mahone was, I believe, the head of the company and his wife's name was Otelia, so from that locally the Norfolk & Western, or the A., M. & O. as it was called at that time, was commonly called "All Mine and Otelia's." This is probably as unique as any of the nicknames I know of.

J. W. COWPER,
President, John W. Cowper Company

NEWS

F. E. Williamson Discusses Railroad Problems of 1935

New York Central president speaks before the Central Railroad Club of Buffalo

Frederick E. Williamson, president of the New York Central, speaking before the Central Railway Club of Buffalo, N. Y., on January 10, described himself as an optimist so far as the railroad future as a whole is concerned, saying that "at no time within the experience of my hearers have the railroads been more alert to their responsibilities and, likewise, to their opportunities."

Taking as his subject "Railroad Problems of 1935" Mr. Williamson explained the importance of the carriers to local communities which they serve; refuted the charge that railroads as a whole are overcapitalized; stressed the need for equitable regulation of all carriers; and condemned the St. Lawrence waterway as a project which would "add measurably to the tax burden and this at a time when it is rapidly becoming unbearable." Then turning, as he puts it, "to pleasanter topics" the New York Central president pointed out how the depression has been a spur to progress and to railway enterprise, listing in the latter connection developments such as light weight equipment and streamlined trains and locomotives.

Talking specifically of Buffalo, Mr. Williamson illustrated his first point when he told how the New York Central in 1933 paid to that city alone taxes amounting to $1,192,342. On the three New York Central divisions which serve Buffalo and the Niagara frontier territory it paid in wages $12,000,000 during 1933. Stressing also the importance of railway prosperity to a community's local business, he pointed out how the New York Central in 1930 made purchases in the Buffalo-Niagara territory amounting to $5,400,000, whereas "because of our decreased purchasing power" such local buying fell in 1934 to $1,500,000.

Answering the charge of overcapitalization Mr. Williamson quoted Co-ordinator Joseph B. Eastman, to the effect that "It is impossible to support a claim that an extortionate return, or anything approaching such a return, is now being exacted on the money which has gone into the railroads." These findings, he added, have "come from such a high and impartial source that they should do a great deal to convince the country of the absurdity of these charges." The speaker, after again quoting Co-ordinator Eastman on the necessity for equitable regulation of all transport agencies, denied that the railroads "seek any unfair advantage over these competitors." He explained that what they seek is simply "to be put on an equality with the unfair competition now offered by various government subsidized means of transportation."

Proponents of the St. Lawrence waterway, Mr. Williamson finds, have recently shifted their emphasis to the power phase of the project and "say little of the shipway feature on which they have laid so much stress heretofore." He pointed out in this connection that regardless of where the emphasis is laid "the net results to the railroads of the east and the middle west and to the railroad men employed on them, will be just as disastrous in either case."

In considering recent railway developments and enterprise Mr. Williamson, while pointing out that "A renaissance of railroading seems in sight," thought it nevertheless desirable to sound a warning lest public expectations be aroused to an extent that disappointment must inevitably follow. He reminded his audience that in a plant as huge as a railroad, radical changes cannot be made overnight, and disagreed with those who believed that the steam locomotive will rapidly be supplanted by other forms of motive power. Each new development in power plants on wheels, he continued, will undoubtedly find a place in the railroad transportation picture. He added that "this does not mean that existing power plants must necessarily be scrapped in the near future." Every railroad manager in the country, he said, is watching with appreciation and sympathy the rapid progress being made by power plants burning fuels other than coal—"the New York Central cannot be accused of lack of appreciation because today we have 45 diesel engined locomotives, more than any other railroad in the world."

In closing Mr. Williamson discussed briefly the New York Central's new streamlined locomotive. In this connection he epitomized the present policy of the New York Central as being one of "attempting to get the utmost in value and service from our existing power plant, while at the same time watching with sympathetic interest the experiments being made by a number of other roads."

General Passenger Agents' Association of New York

The General Eastern Passenger Agents' Association of New York held its annual luncheon meeting at the McAlpin hotel, on January 10. The association elected as president for the ensuing year F. A. Waldron, assistant general passenger agent of the Erie.

I. C. C. Report Questions Cost of Outside Services

Finds possible bases for criticism in payments for special counsel and for audits

Stating that "some of the expenditures reported are so large as to present a serious question as to whether they meet the requirement of the law for efficient and economical management," the Interstate Commerce Commission has issued a report on the returns filed by the railroads to a questionnaire addressed last year to the Class I railroads in connection with a general investigation of payments amounting in the aggregate to $5,000 or more per annum, during the years 1930 to 1933, inclusive, "made to others than employees for or in connection with services of any character whatsoever performed for the railroads not representing the construction or physical operation of the railroad." Because of the different interpretations placed on the order the results are rather inconclusive, but the commission finds possible occasion for criticism in some of the payments for special counsel and rechecking of interline accounts. Thirty-three carriers had nothing to report and 145 carriers reported payments of $84,831,059 in the four-year period, classified as follows:

Advertising	$22,910,894
Railroad associations, etc.	22,418,196
Legal	10,903,967
Miscellaneous	8,831,854
Employees insurance	5,480,016
Financial	4,503,579
Accounting	2,094,880
All others	7,687,668
Total	$84,831,059

The conclusions are in part as follows:

"Although the questionnaire indicated the form of special report required, differences are reflected in the returns. This probably is due to the difference in construction placed by the reporting officers upon the requirements of the order. The period here in question is one during which a comparatively light volume of traffic moved. Consequently, it is a period of low aggregate revenues. Some of the expenditures reported, however, are so large as to present a serious question as to whether they meet the requirements of the law for efficient and economical management.

"The returns show a downward trend in most classes of expenditures where comparatively large payments were made. There is shown, however, such wide variance between the amounts expended by different carriers for similar services as to suggest the propriety of a thoroughgoing investigation by the management of

certain carriers to determine whether wasteful or unprofitable expenditures are being made. For example, the New York Central Railroad Company reported more than $687,000 paid "for services as foreign agents," whereas the Pennsylvania Railroad Company is shown to have paid slightly more than $70,000 and the Erie Railroad Company approximately $46,000 for services similarly described.

"Approximately $11,000,000 was paid by some 78 carriers for legal services of counsel specially retained. Approximately two-thirds of that amount is shown to have been paid by 13 carriers. In many instances the fees paid to individuals are shown to have been very large. The payees are of record. The payments reported under this class raise the question whether it would not have been more economical for the carriers to maintain permanent and adequate legal staffs.

"Expenditures reported for accounting aggregate $2,094,880.95. Approximately $1,700,000 of this amount was expended by eight carriers for rechecking of interline accounts. This matter has been investigated further since the returns were filed in this proceeding. The services were shown to have been rendered on a contingent fee basis, the fees ranging from 25 to 37.5 per cent of the amounts found payable to the employing carrier. The work was done by independent auditing firms. In all instances except two the contracts provided for a commission, or contingent fee, of 33⅓ per cent of the amount recoverable. The contracts generally provide in effect that no report be made of amounts found due from the employing carrier to its interline connections. The large amounts paid indicate that those carriers' accounting forces were either inadequate or inefficient. Carrier accounting should be by carrier employees. It should not be on a contingent basis. From the information now in our records, it appears that these carriers in thus relinquishing to outside concerns a part of their own accounting duties paid greatly in excess of what normally would be expended by them in the proper performance of the work. While contingent-fee checking of interline accounts may be, and apparently it has been, profitable to the concerns given such contracts, it can only result in a waste of the aggregate of carrier resources. An accounting check intended to collect amounts due, but not to pay a carrier's own obligations as they may be developed, cannot be justified.

"An aggregate of $22,418,196.59 is shown to have been contributed to associations, bureaus, commissions, etc. This is an important item. Whether there is duplication and overlapping of functions among the numerous organizations maintained or partly supported, or whether they are all worthy of railroad support or subsidy, the information before us does not disclose. This also is a matter that should have the consideration of the managements responsible for the contributions.

"As above indicated, the wide variances in expenditures by carriers of comparable size indicate that closer supervision is necessary. Probably publicity is the best check on excessive or unnecessary payments. Accordingly, an appropriate schedule has been included in our annual report form requiring carriers to show currently such expenditures as those here in question. Each carrier thus will be required to keep account of these expenditures and to make them public as part of its report to us.

"The proceeding will be discontinued."

Lending Powers of R.F.C. to Be Extended

Chairman Jones of the Reconstruction Finance Corporation, after a conference with the President on January 14, announced that a bill would be introduced providing for a two-year extension of the lending powers of the corporation, which expire on January 31. He also spoke of a possibility of "liberalizing" the conditions on which loans may be made to railroads. Regulations liberalizing the industrial loan policy of the R. F. C. have been put into effect, designed to be of assistance in the stimulation of demand for capital goods, providing for the consideration of applications for money to be used principally for the replacement and modernization of plant and equipment.

Maine Commission Approves Crossing Signals

The Public Utilities Commission of Maine, acting on petitions of the Maine Central and the Portland Terminal, has authorized these roads to install highway crossing signals of the flasher-light type, in place of wig-wag type signals now in use at numerous crossings on both roads. The roads, in their petitions, set forth that some of the wig-wag signals are becoming worn out or otherwise obsolete, and that economy and efficiency demand the substitution of the other type. The order requires that where bells are now in use with the signals, bells shall be continued.

The Commission has also granted the petition of the Portland Terminal Company authorizing the installation of flashing-light signals at two crossings in the city of Portland which hitherto have been protected by gates. The change is warranted by the diminution of the amount of traffic, both on the railroad and on the highway.

Net Deficit for Ten Months $31,348,735

Class I railroads for the first ten months of 1934 had a net deficit after fixed charges of $31,348,735, according to the Interstate Commerce Commission's compilation of selected income and balance-sheet items. This compares with a deficit of $23,069,720 in the corresponding period of 1933. For October there was a net income of $5,716,576. The commission's summary follows:

SELECTED INCOME AND BALANCE-SHEET ITEMS OF CLASS I STEAM RAILWAYS

Compiled from 143 reports (Form IBS) representing 149 steam railways
TOTALS FOR THE UNITED STATES (ALL REGIONS)

For the month of October 1934	For the month of October 1933	*Income Items*	For the ten months of 1934	For the ten months of 1933
$48,624,982	$57,366,038	1. Net railway operating income	$391,234,736	$398,823,836
13,032,619	13,618,658	2. Other income	140,239,405	142,724,579
61,657,601	70,984,696	3. Total income	531,474,141	541,548,415
11,188,207	11,200,579	4. Rent for leased roads	111,426,196	110,683,767
43,168,577	44,124,774	5. Interest deductions	433,997,913	442,260,527
1,584,241	1,745,389	6. Other deductions	17,398,767	11,673,841
55,941,025	57,070,742	7. Total deductions	562,822,876	564,618,135
5,716,576	13,913,954	8. Net income	*d 31,348,735*	*d 23,069,720*
		9. Dividend declarations (from income and surplus):		
656,565	1,291,186	9-01. On common stock	63,467,693	52,657,375
570,636	509,835	9-02. On preferred stock	13,233,986	11,530,432

BALANCE-SHEET ITEMS

Selected Asset Items	Balance at end of October 1934	Balance at end of October 1933
10. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	$804,871,687	$758,226,160
11. Cash	329,476,685	330,055,280
12. Demand loans and deposits	38,960,859	40,103,559
13. Time drafts and deposits	38,067,722	55,793,071
14. Special deposits	47,592,878	32,715,080
15. Loans and bills receivable	6,699,383	10,335,969
16. Traffic and car-service balances receivable	54,641,822	57,470,423
17. Net balance receivable from agents and conductors	45,461,425	44,208,032
18. Miscellaneous accounts receivable	156,335,120	133,749,870
19. Materials and supplies	303,622,839	293,526,858
20. Interest and dividends receivable	46,500,638	42,956,770
21. Rents receivable	3,888,854	3,020,755
22. Other current assets	4,255,474	4,621,424
23. Total current assets (items 11 to 22)	$1,075,503,699	$1,048,567,091
Selected Liability Items		
24. Funded debt maturing within 6 months*	$122,703,794	$222,201,074
25. Loans and bills payable†	304,469,998	340,393,659
26. Traffic and car-service balances payable	69,144,933	71,190,098
27. Audited accounts and wages payable	212,061,210	203,334,909
28. Miscellaneous accounts payable	65,294,212	52,665,919
29. Interest matured unpaid	303,883,333	223,181,243
30. Dividends matured unpaid	4,737,470	4,804,132
31. Funded debt matured unpaid	273,362,903	97,556,452
32. Unmatured dividends declared	1,407,296	902,153
33. Unmatured interest accrued	110,572,591	110,367,146
34. Unmatured rents accrued	37,296,815	35,062,135
35. Other current liabilities	17,562,115	16,754,105
36. Total current liabilities (items 25 to 35)	$1,399,792,876	$1,156,211,951
37. Tax liability (Account 771):		
37-01. U. S. Government taxes	$33,826,224	$35,260,987
37-02. Other than U. S. Government taxes	159,178,640	177,156,529

* Includes payments which will become due on account of principal of long-term debt (other than that in Account 764, Funded debt matured unpaid) within 6 months after close of month of report.
† Includes obligations which mature less than 2 years after date of issue.
d Deficit.

Eastern Car Foremen's Association

The Eastern Car Foremen's Association, at its January meeting, which is to be held in the Engineers' Society Building, 29 West Thirty-Ninth street, 8 p.m. Friday, January 25, will discuss the A.R.A. Rules of Interchange. Carl Dierks, chief inspector, car department, and R. L. Law, billing inspector, both from the Delaware & Hudson, Albany, N. Y., will lead the discussion.

"Train of Hardware Progress"

A "Train of Hardware Progress" sponsored by the Kelley-How-Thompson Company, Duluth, Minn., and consisting of 15 cars, containing 95 exhibits, including a completely equipped model home, left that city over the Northern Pacific on January 5 for a 15-day tour of the Northwest. The train makes stops at 55 cities in Minnesota, Wisconsin, Michigan, North Dakota, South Dakota and Montana. It is run to serve as the "pilot" to recovery in 1935. The trip will end at St. Paul on January 20 in time for the opening of the Minnesota Retail Hardware convention.

I.C.C. Appropriation Passed By House

The House on January 10 passed the independent offices appropriation bill, including the amount recommended by the appropriations committee of $5,850,656 for the Interstate Commerce Commission for the fiscal year 1936. Aside from the amount necessary to restore to the employees the final 5 per cent of their salary reduction this represents a net decrease of $98,852 for the maintenance of the commission. The bill also includes $336,450 for the National Mediation Board, of which $156,000 is for the National Railroad Adjustment Board.

Trucking Code Authority To Submit Eight-Hour Day Report

The national code authority for the trucking industry has informed N.R.A. that it will have completed its study and report on the possibility of establishing a uniform eight-hour day in the industry by February 1, and the time for submission of the report has been extended until that date. The code instructed the code authority to make the study in cooperation with the National Industrial Relations Board. The code provides a basic 48-hour week, but allows exceptions for drivers and their helpers.

Railroads Should Yield No Class of Traffic, Says Ogden

George D. Ogden, assistant vice-president of the Pennsylvania, discussed "Railroad Long and Short Hauls" in an address delivered on January 10 before the student branch at Lehigh University, Bethlehem, Pa., of the American Society of Mechanical Engineers.

Mr. Ogden reviewed the development of the long and short haul clause of the Interstate Commerce Act and its bearing on transcontinental traffic carried by the railroads. Then, turning to long and short hauls in general, he disagreed with any contention that the railroads can afford to yield the so-called short-haul traffic. Mr. Ogden rather thought that the rail carriers should provide all types of transport which their patrons may desire, such as storedoor pickup and delivery and services designed to meet hand-to-mouth buying habits of business.

The railroads, he concluded, "are prepared to give assurance that regardless of distance, it is our job to perfect plans that will insure the most efficient service, long-haul or short-haul, and that there is no escaping the responsibility, nor is there any disposition so to do, in the effort to earn sufficient gross revenue to meet fixed charges and a reasonable profit for owners." He added that the railroads aim is "to keep step with the demand of modern progress and to give the public the benefit of improvements in the science and art of transportation."

Pullman Accommodations Illustrated

A 20-page illustrated brochure, designed to familiarize ticket sellers and others with the accommodations and services of Pullman cars, has just been compiled by the Pullman Company. With its 33 three-color illustrations and floor plans, it tells the story of Pullman travel service, describing each type of accommodation and pointing out all the auxiliary conveniences which round out Pullman comfort to the full. The booklets are being sent not only to salesmen of passenger service, but also to hotels, clubs, foreign travel offices, and others interested in railway passenger service.

Rate Advance Arguments Concluded

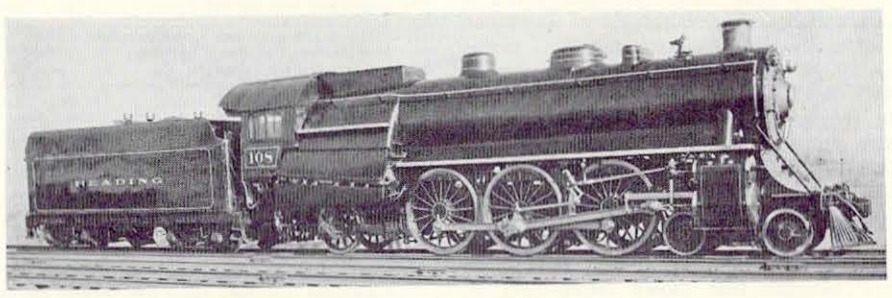
The problem as to who is to pay for the increases in wages and in prices of materials purchased by the railroads as a result of the application of "New Deal" policies, estimated at $290,000,000 a year, was left in the hands of the Interstate Commerce Commission for decision on January 15 when a week of oral arguments was concluded on the application of the roads for increases in freight rates estimated at $170,000,000 a year to meet part of the increase. The bill is now being paid by the railroads, except for part of the wage restoration which does not become effective until April 1, and most of the money is being collected by their employees and by the employees of those who sell to the railroads, whose wage increases under N. R. A. codes are largely responsible for the increases in prices. Some of it is being borrowed by the railroads from the government, in loans from the R. F. C. to meet deficits, and they have asked the shippers to meet part of the cost. However, most of those who were represented in the arguments during the week were able to develop elaborate contentions as to why they should not be asked to do so. Very few suggestions were offered as to who should pay the bill, although there were some who thought that the railroad bondholders should be asked, or forced, to emulate the example set by most of the stockholders who have had to forego dividends.

The arguments before the entire commission were much more audible than was the testimony presented earlier before Commissioner Aitchison. Since the hearings the acoustics in the commission's new hearing room have been greatly improved by the use of various window hangings to absorb echoes and by the substitution of new wood chairs for steel ones.

Remodeled Reading Locomotive Makes Fast Run

A speed of "almost 100 miles an hour" was attained on January 11 during the test run on the Reading and Central of New Jersey of a remodeled steam locomotive which the former has recently completed and which was exhibited January 15 at the Jersey City, N. J., station of the C. N. J. The train with which the test was made between Philadelphia and Jersey City, consisted of four standard steel coaches and two Pullman cars. E. W. Scheer, vice-president in charge of operation and maintenance for the Reading and the Central of New Jersey, headed a party of the railroads' officials who made a 90-mile trip in 88 min., including three station stops.

The locomotive is of the 4-6-2 type, having an over-all length with tender of 80 ft., 9¾ in. and a total weight, also including the tender, of 457,300 lb. The steam pressure is 220 lb.; cylinders are 25 in. by 28 in., and the tractive force 40,900 lb. The locomotive has 80-in. driving wheels. In order to secure smooth exterior surfaces the air pump and main reservoir are mounted on the tender, the former in a compartment in front of the coal space on the right side, and the latter, with suitable radiation, on top of the tank, back of the coal space. The power reverse gear is mounted under the boiler in front of the leading driving axle. The casing on top of the boiler immediately behind the bell, houses the boiler checks. The enclosure immediately in front of the cab, which is open at the top, conceals the turret, the safety valves, the whistle and the headlight turbo-generator. The shrouding below the firebox conceals the side of the ash pan and adds to the neatness of the lines. The headlight is concealed within the cone-shaped smoke-box door.



Makes "Almost 100 Miles an Hour" on Test Run

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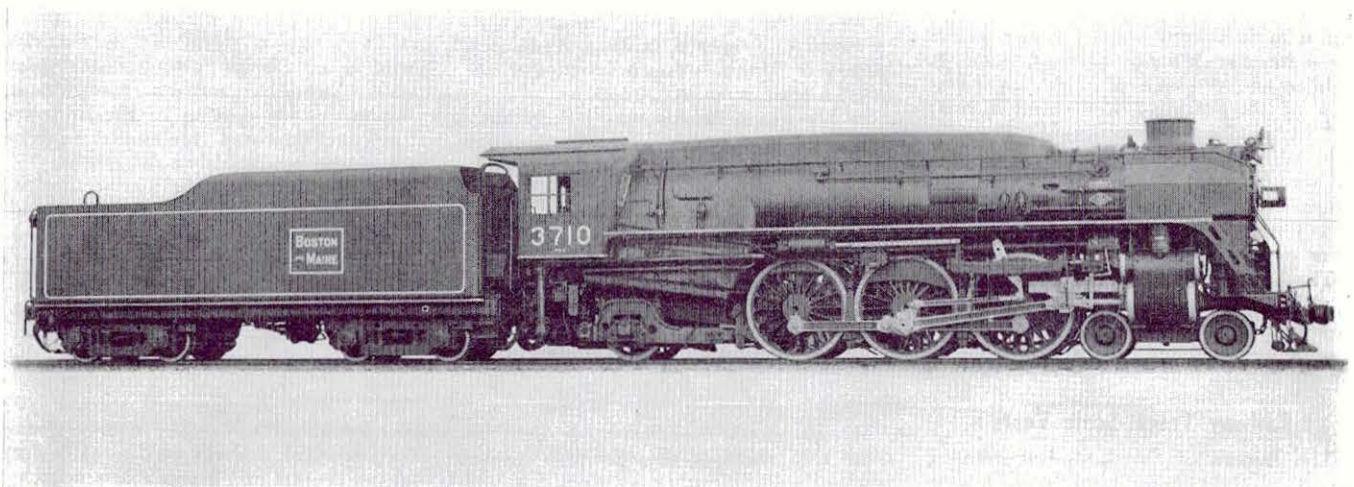
LIMA POWER

for the BOSTON AND MAINE



Five streamlined passenger locomotives with 80 inch drivers were recently delivered by Lima Locomotive Works, Incorporated, to the Boston and Maine Railroad.

These locomotives are specially designed for high speed, heavy passenger train service.

LIMA LOCOMOTIVE WORKS INCORPORATED

LIMA OHIO

Kentucky Rate Hearings Resumed

The Kentucky Railroad Commission, in an order issued at Frankfort on October 10, announced a resumption of hearings in Docket 344, the investigation of class and commodity freight rates between points in Kentucky, because of complaints received by the commission that Kentucky intrastate rates are from 30 to 40 per cent higher than rates in the states of Ohio, Indiana, Illinois, Tennessee, West Virginia and Virginia. Hearings will be held in Frankfort on January 9-10; in Pineville on January 14-15; in Hazard on January 16-17; in Pikeville on January 18-19; in Hopkinsville on February 5-6; in Mayfield on February 7-8; in Frankfort on February 11, 12 and 13; and in Owensboro on February 14-15.

Members of Retirement and Mediation Boards Nominated

A long list of nominations for appointment sent to the Senate on January 10 by President Roosevelt included the following who had been serving under recess appointments: Murray Latimer, John T. Williamson, and Lee M. Eddy as members of the Railroad Retirement Board; and John Carmody, James W. Carmalt, and William M. Leiserson as members of the National Mediation Board. On January 14 the President also nominated Mr. Carmody for re-appointment for a term expiring February 1, 1938.

The list did not include any nomination for the vacancy on the Interstate Commerce Commission created by the expiration of the term of Patrick J. Farrell on December 31.

Railway Track Scale Tests

The Bureau of Standards has issued a report of its railway track scale testing service for the fiscal year ended June 30, 1934, in which each of the 19 master track scales in the United States was calibrated. In addition 1,309 railway track scales were tested. All the master scales tested were found on preliminary maintenance tests to be correct within the "maintenance test" tolerance. Twelve scales were adjusted or otherwise modified to improve their performance characteristics. On final test each master scale was correct at all points tested within the "adjustment test" tolerance. In the case of eight scales recommendations were made, designed to effect improvement in the weighing performance, or in the installation. Of the 1,309 track scales tested, 1,020, or 77.9 per cent, were found to be within the tolerance.

Truckmen Refuse to Testify on Storedoor Contract Payments

Representatives of contract truckers employed in connection with the storedoor services of the Erie and the Pennsylvania refused, at an Interstate Commerce Commission hearing in New York on January 14, to testify as to payments made to them under their contracts with the railroads. The hearing which was conducted by Examiner Flemming, was on the complaint of the Merchant Truckmen's Bureau of New York that the storedoor services were a violation of the Interstate Commerce Act.

Charles E. Cotterill, counsel for the truckmen's bureau, questioned representatives of the United States Trucking Corporation, the Reardon Trucking Corporation, and the Baldwin Transportation Corporation, about payments received from the railroads. M. B. Pierce, assistant general counsel of the Erie, objected on the ground that such payments were a matter of concern only to the contracting parties. The witnesses were persisting in their refusals to answer when the hearing was adjourned to allow a month for the filing of briefs.

A.S.C.E. Annual Meeting

The eighty-second annual meeting of the American Society of Civil Engineers was held in New York, January 16 to 19. Among the many reports and papers presented, the paper on Separation of Ways, by Robert H. Ford, assistant chief engineer of the Chicago, Rock Island & Pacific, and that on Increased Activities of Marine Wood Borers on the New England Coast, by Frank C. Shepherd, consulting engineer, Boston & Maine, were of particular interest to railway men.

In his paper, which was largely nontechnical in character, Mr. Ford, after pointing out the magnitude of the railroad-highway grade crossing problem, criticized the uncorrelated manner in which this problem has been handled in the past and called for a national plan for highway control and construction. With such a plan he contended that millions of dollars could be saved through the elimination of needless duplication of roads, unwarranted road improvements and unnecessary grade separation projects.

Mr. Shepherd, in his paper, discussed in detail the results of the marine borer investigation being made in New England by the New England railroads, the Commonwealth of Massachusetts and the State of New Hampshire.

Assignments to House Committee On Interstate and Foreign Commerce

The House of Representatives on January 10 approved the appointment of the following majority members of the committee on interstate and foreign commerce, which will handle most of the bills that come before Congress relating to transportation: Sam Rayburn, Texas, chairman; George Huddleston, Alabama; Clarence F. Lea, California; Robert Crosser, Ohio; Parker Corning, New York; Alfred L. Bulwinkle, North Carolina; Virgil Chapman, Kentucky; Paul H. Maloney, Louisiana; William P. Cole, Jr., Maryland; Samuel B. Pettengill, Indiana; Edward A. Kelly, Illinois; Edward A. Kenney, New Jersey; George C. Sadowski, Michigan; Joseph P. Monaghan, Montana; John A. Martin, Colorado; Edward C. Eicher, Iowa; Theodore A. Peyser, New York; Thomas J. O'Brien, Illinois; and David J. Terry, Arkansas. On January 14 the House also approved the following assignments of minority members to the committee: John G. Cooper, Ohio; Carl E. Mapes, Michigan; Charles A. Wolverton, New Jersey; James Wolfenden, Pennsylvania; Pehr G. Holmes, Massachusetts; Schuyler Merritt, Connecticut; B. Carroll Reece, Tennessee; and James A. Wadsworth, Jr., New York.

Milwaukee's Plans for Its New High Speed Trains

Streamlined trains new in every detail and propelled by streamlined oil-burning steam locomotives ordered from the American Locomotive Company last September, will be placed in service on the Chicago, Milwaukee, St. Paul & Pacific between Chicago and St. Paul and Minneapolis early in the Spring. The locomotives will embody many features entirely new in locomotive construction and were especially designed for sustained high speed service. Each axle, as well as other movable parts affected by friction, will be encased in oil or grease and will operate on roller bearings. They will be the first streamlined steam locomotives to be newly built throughout. While the schedule of these trains has not been established, the railroad has announced that its mechanical engineers and the locomotive builders set out to design a steam locomotive that would be capable of making faster speed than any steam locomotive heretofore built.

Roller bearing coaches of the train are of new and improved type similar to those built in the road's Milwaukee shops. To secure maximum benefit to be derived from streamlining, the rear of the end cars will be rounded. Two cars of this type for use on new trains are now nearing completion in the railroad's shops. The entire train, which will carry a café car and a parlor car in addition to the new type day coaches, will be air-conditioned. Routed by way of Milwaukee and La-Crosse, the speed trains will operate daily over a double track system equipped with heavy rail and modern mechanical devices that permit fast and dependable service.

R. V. Fletcher Discusses Railway Legislative Program

Legislation which the railroads will seek to have enacted at the present session of Congress was outlined by R. V. Fletcher, vice-president and general counsel of the Association of American Railroads, in an address at the eleventh annual meeting of the Atlantic States Shippers' Advisory Board in New York on January 10.

Mr. Fletcher pointed out how the carriers will seek legislation to bring about equitable regulation of all transport agencies, repeal or amendment of the fourth section and of the labor provisions of the Emergency Transportation Act. The railroads, Mr. Fletcher said, can survive as major carriers only if they are necessary to industry and he stressed the desirability of giving them an opportunity to demonstrate their indispensibility under an equitable competitive set-up.

Referring to the program of the railway labor organizations, Mr. Fletcher warned against the enactment of legislation which would place further burdens upon the railroads, such as a six-hour day, limitation of the size of freight trains and pension laws. He asked that the railroads be not singled out from all industry as an experimental laboratory for new kinds of legislation.

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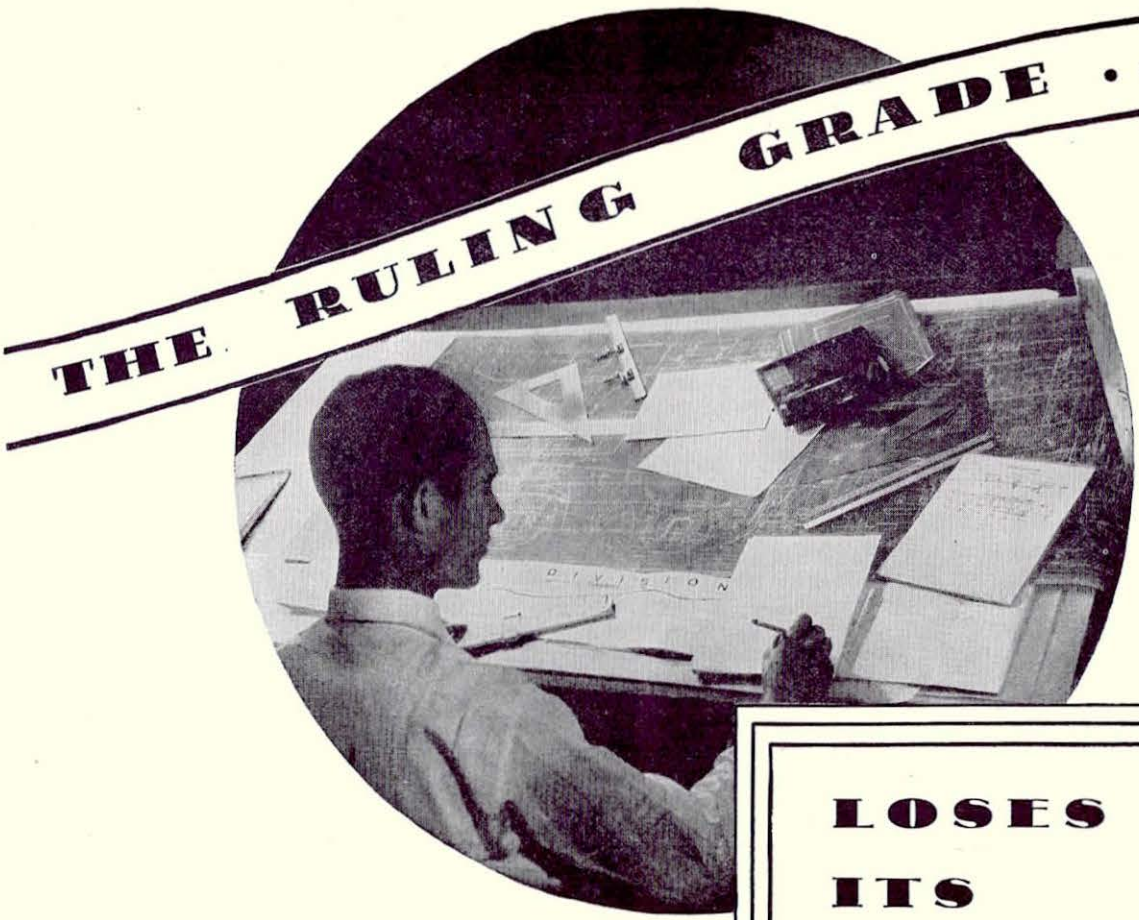
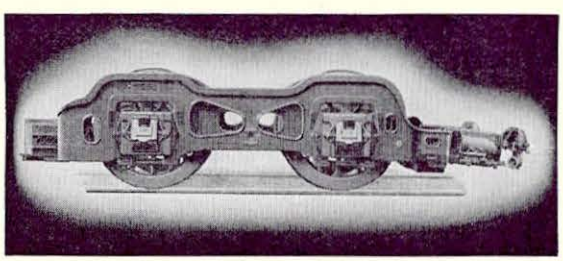


In designing power for definite service the power needed for starting and to get over the ruling grade determines cylinder size for a given service. «« If the locomotive is Booster equipped, the ruling grade loses its control. «« The locomotive is then designed to meet the horsepower capacity needed at the desired road speeds. «« Cylinders are smaller and all parts correspondingly lighter. «« The Booster provides the added tractive effort required for starting and to get the train over the hill. «« Smaller cylinders and lighter weights of Booster powered locomotives result in correspondingly lower costs for both operation and maintenance.



Franklin repair parts use jigs and fixtures that insure interchangeability, long life and dependability of service. Genuine Franklin parts are a guarantee of maximum trouble free service.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

In another address delivered on June 14 at Rochester, N. Y., before the Railroad Employees & Taxpayers Association of the State of New York, Monroe county unit, Mr. Fletcher, while speaking again along the lines of the foregoing, referred also to the ramifications of government ownership. Should this latter come about, he said, consolidations and economies could only be accomplished at the expense and to the distress of the railroad workers. Once into the transport business, he continued, the government would undoubtedly find it necessary to take over highway and waterway carriers for hire. Following in the wake of this he suggested that politicians might begin questioning why the railroads, using 28 per cent of the coal mined in this country, should buy their coal rather than mine their own; why the railroads should not produce their own steel, etc. Thus he believes that with the ownership of railways as a first step the government would be found to be extending itself more and more into other business in competition with private enterprise.

Court Sustains Challenge of Central Vermont's U. S. Rail-Water Route

Utilization by the Central Vermont of the New York-New London steamship service of its subsidiary, the Central Vermont Transportation Company, to form a through route for freight moving between United States points on its rail line and New York has been held by the United States Supreme Court to be a violation of the Merchant Marine Act of June 5, 1920. The case—Central Vermont Transportation Company vs. Durning—arose as a result of the seizure by a United States customs officer of merchandise originating at St. Albans, Vt., and, after a rail haul to New London, being transported in Central Vermont Transportation Company vessels to New York.

The evidence showed that the Central Vermont Transportation Company is a Maine corporation operating steamships on Long Island sound between New London and New York and that its vessels were built in the United States and documented under the laws of this country. Its shares of stock, however, are owned by Central Vermont and the stock of the latter is owned by the Canadian National, a Canadian corporation. Although these various stock acquisitions had been approved by the Interstate Commerce Commission, Section 27 of the Merchant Marine Act prohibits the transportation of merchandise by water or by rail and water between points in the United States in any other vessel than one built in and documented under laws of the United States and owned by persons who are citizens of the United States. The act further contains language defining ownership by a citizen of the United States in such a way as to lead the court to the conclusion that within the meaning of the act these vessels were not so owned.

The action of the customs officer in seizing the goods was therefore upheld. The court, construing that part of the act which stipulates that it should not apply to merchandise transported between points within the continental United States over through routes recognized by the Interstate Commerce Commission for which routes rate tariffs have been filed with the commission, when such routes are in part over Canadian rail lines, held that, since the merchandise seized had never moved over a rail line lying in Canada, the exception did not apply.

Co-ordination Between Departments

"Co-ordination Between Departments" was the subject of a paper before the New England Railroad Club, at its meeting in Boston, on January 8, by W. J. Patterson, director of the Bureau of Safety of the Interstate Commerce Commission.

Co-ordination of transportation facilities is a subject now on everybody's tongue, the government having undertaken elaborate studies. This, however, is not what I have to talk about, said the speaker, except, perhaps, that it may be observed that some of the objectives dealt with by the Federal Co-ordinator might well be carried out by the Association of American Railroads. And some of these matters have already been attended to.

On the subject of co-ordination between different departments on the same road, however, Mr. Patterson went on to cite varied experiences of his bureau in the enforcement of the safety appliance laws and in the investigation of train accidents.

The legal department, for example; why do not the railroads make full use of the lessons learned in court decisions? For example, the air brake law applies to the movement of freight trains on the main line. The execution of a switching movement over the main line may bring it within the law applying to trains. Disregard of this fact leads to a violation and the railroad is penalized; but the lesson is not applied throughout the lines of that company and there is another prosecution, perhaps more than one, on that same road. The legal department ought to have seen that the operating departments learned their lessons more thoroughly. Thus, a company goes on defending suits in the courts when it should have known and obeyed the law. Moving a defective car to a repair station is a point in which the law is sometimes violated by moving the car farther than is necessary, and there is a suit and a court decision; but the lesson of this decision is not always conveyed to all the local officers who should know about it.

Violations of the hours-of-service law by having train dispatchers or operators work eight hours in one place and then another trick within 24 hours, are occasionally found, and then later the same violation is found on another division of the same road. Co-ordination failed somewhere.

There was a case where an inoperative air brake car in the middle of a train was permitted to proceed when it should have been set out, or should have been switched to the rear of the train, but the only excuse of the railroad company was that the records did not show where the car had become defective. The president of the road, the legal department, the car inspector and others had not properly co-operated with one another.

The speaker then referred to train accidents within recent history, where the inspection of bridges was neglected because of the lack of frequent and full reports of all situations by competent inspectors. In one case a bridge had even become so dangerous that local residents were alarmed, yet officers of the railroad remained in ignorance.

The superintendent of safety should be in close touch with the operating department, but it is sometimes found that he is not. When an accident occurs he should be active in the investigation, but investigations are being held all the time with this man absent. Local officers who may be in some measure responsible for a certain accident are not the ideal investigators of that particular case. A recent derailment brought out the fact that the superelevation of a curve had been reduced but the speed rule for passenger trains had not been correspondingly modified. In another similar case the maximum speed limit had been increased from 55 m. p. h. to 65 m. p. h., without any improvement in the track. Important trains have been delayed because of defective arrangements for reporting signal failures; an investigation a week after the event is liable to be almost worthless. Reports requiring immediate attention sometimes travel many miles from one office to another before finally coming back to the man who is responsible, who is in the same building with the one who started the report.

Other instances were cited, from the purchasing department and others. Most of us are so situated as not to be able to tackle the Federal Co-ordinator's task or tasks, or any part of his work, but many of the members of the New England Railroad Club, said Mr. Patterson, should be in position materially to promote proper co-ordination of the functioning of his own road.

Railroad Bills in Congress

Senator Wheeler, of Montana, chairman of the Senate committee on interstate commerce, has announced that he is preparing a bill to provide for the acquisition of the railroads by the federal government by exchange of government bonds for outstanding securities, to be introduced shortly.

The fourth section bill, H.R. 8100, introduced by Representative Pettengill, of Indiana, which has been endorsed by the National Industrial Traffic League, the railroads, the labor organizations, and the Security Owners' Association, would repeal the first paragraph of section 4 of the interstate commerce act and substitute the following: "That it shall be unlawful for any common carrier subject to the provisions of this act to charge or receive any greater compensation as a through rate than the aggregate of the intermediate rates subject to the provisions of this act; Provided, that the commission may from time to time prescribe the extent to which common carriers may be relieved from the operation of this section: and provided further, That rates, fares, or charges existing at the time of the passage of this amendatory act by virtue of orders of the commission or as to which application has theretofore been filed with the commission and not yet acted upon shall not be required to be changed by reason of this provision of this section until the further

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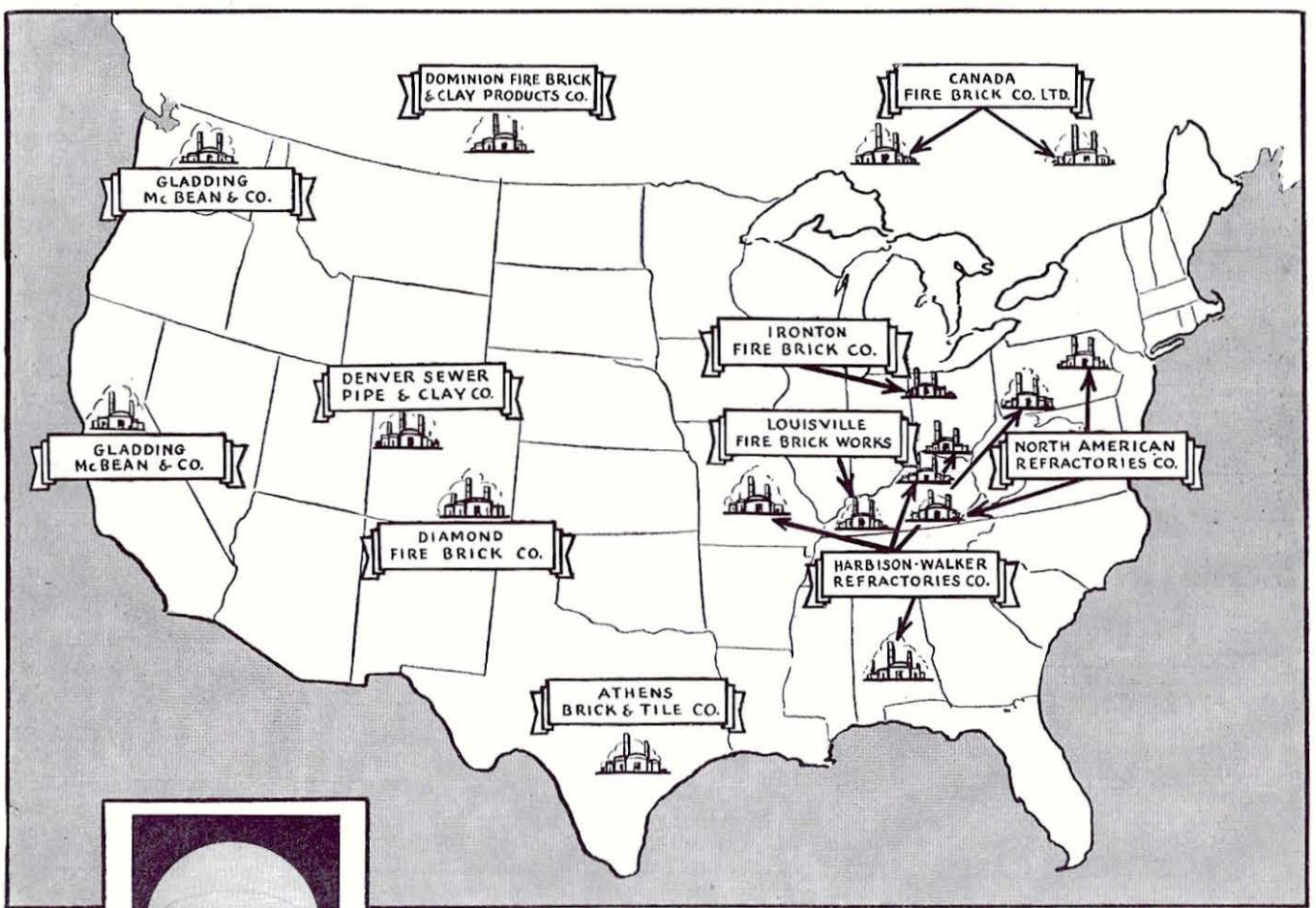
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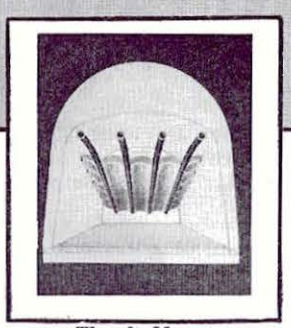

There's More to
SECURITY ARCHES
Than Just Brick

NRA MEMBER U.S.
WE DO OUR PART

Locomotive service is the severest service for any material and particularly so for Arch Brick.

As experienced railroad men, we fully realized the punishment Arch Brick must withstand and carefully studied all available sources — first, to provide refractories suitable for railroad service and, second, to assure sources of supply that would best serve railroad needs.

These supply sources are shown above.

AMERICAN ARCH COMPANY
INCORPORATED
Locomotive Combustion Specialists
NEW YORK CHICAGO

order of or a determination by the commission."

Senator Murray, of Montana, has introduced one of the bills on the program of the Railway Labor Executives' Association, S. 543, "to promote the safety of employees and travelers upon common carriers engaged in interstate commerce by railroad by compelling such carriers to maintain tracks, bridges, and appurtenances thereto in safe and suitable condition." A similar bill was introduced in the House by Representative Mapes, of Michigan, as H. R. 3617. Representative Kramer, of California, has introduced H. R. 3613, to regulate brake equipment on freight cars. Senator King, of Utah, has introduced S. 394, to provide for federal regulation of motor carriers, approximately the same as the Rayburn bill of last session.

Representative Thomason, of Texas, has introduced H. R. 2870 to reduce the limitation in the hours of service act from 16 to 12 for train service employees and provide a maximum of 9 hours for employees transmitting train orders and 6 hours for dispatchers.

Senator Wheeler has introduced three bills, S. 943, S. 944, and S. 945, to amend sections 21, 5, 11, and 24 of the interstate commerce act. Senator Walsh has introduced S. 874 to amend section 3 of the act.

Equipment and Supplies

FREIGHT CARS

THE BALTIMORE & OHIO is inquiring for from 50 to 150 hopper cars for transporting cement.

PASSENGER CARS

THE CHILEAN STATE RAILWAYS are inquiring for 15 first-class passenger coaches and 6 sleeping cars.

THE NORTHERN PACIFIC placed an order in December, 1934, with the Pullman-Standard Car Manufacturing Company for six deluxe light-weight coaches. The original inquiry, reported in the *Railway Age* of November 17, was for 24 cars but only 6 will be purchased.

IRON AND STEEL

THE SOUTHERN PACIFIC is expected to enter the market for 26,740 tons of rails.

THE CHICAGO, BURLINGTON & QUINCY will enter the market soon for about 15,000 tons of rails and 4,000 tons of track accessories.

THE NORFOLK & WESTERN has placed orders for 32,000 tons of 131-lb. steel rail divided as follows: Carnegie Steel Company, 24,000 tons and Bethlehem Steel Company, 8,000 tons.

MISCELLANEOUS

THE NATIONAL RAILWAYS OF MEXICO has placed an order with the Locomotive Firebox Company for 12 sets of two thermic syphons each for application to 12 steam locomotives which are being thoroughly reconditioned to meet modern operating requirements. This installation will make a total of 84 syphon-equipped locomotives on the National Railways.

THE CHILEAN STATE RAILWAYS has placed an order with the Locomotive Firebox Company for 10 sets of two thermic syphons each to be applied to steam locomotives which will be built for this road in Germany.

Construction

PENNSYLVANIA.—A contract for the construction of a new passenger station at Elkton, Md., has been let to the William M. Francis Company, Inc., Wilmington, Del. Work will be started at once and under the terms of the contract it must be completed within forty working days. This is the final step in the Pennsylvania's improvement program at Elkton which resulted in changing the three main line tracks to a new location one-half a mile to the north, removing the sharp curve through the city. Grade crossings in the area have been eliminated by the construction of two overhead bridges on either side of the new station location, one on the line of Bridge street and the other at North street. These new improvements were completed and trains operated on the new route of the railroad during May, 1934. The new station will be a one-story red brick structure, with a green slate roof. It is to be 20 ft. by 42 ft. with an overhead shelter 70 ft. long and a passenger and baggage platform 450 ft. in length. The pedestrian tunnel under the railroad in service since the spring of last year will connect the main station on the northbound side with the waiting room now in service on the southbound side of the tracks. Here a shelter 65 ft. long and 23 ft. wide will be provided, and the platform extended to a length of about 500 ft.

WABASH.—Completion of the Wabash bridge across the Missouri river at St. Charles, Mo., was assured on January 16 when Public Works Administrator Harold L. Ickes announced a loan of $2,350,000 for that purpose which is estimated to provide 2,650,000 man-hours of employment. Work on the construction site will provide 1,050,000 man-hours and production of steel, concrete and other materials used will create 1,600,000 hours of indirect employment. Work can be commenced immediately and be finished within a year. The Wabash already has spent approximately $926,000 in preliminary construction in connection with the bridge and relocation of its lines to run over the new bridge. Construction was suspended when the company went into receivership. The new bridge will enable the company to operate its heavy power at regular speed. The Interstate Commerce Commission has approved the project as desirable for the improvement of transportation facilities, as required by the national industrial recovery act. This is the second P. W. A. loan to the Wabash, the first loan of $1,481,000 being for the purchase of 13,000 tons of rails and fastenings and repairing a large amount of equipment.

Supply Trade

The General Refractories Company, Philadelphia, Pa., has appointed **George F. Motter's Sons Supply Company,** York, Pa., dealer-agents in the York area.

George A. Bennis, formerly representative of the Nickel Plate-Lackawanna Dispatch Line, has become associated with the **General American Transportation Corporation** in the refrigerator car department, with headquarters at Chicago.

Effective January 1, the name of the **Ohio Power Shovel Company,** a wholly owned subsidiary of the **Lima Locomotive Works, Inc.,** Lima, Ohio, was changed to **Lima Locomotive Works, Inc., Shovel and Crane Division.**

At a meeting of the board of **The Burden Iron Company,** on January 9, at its New York office, **George McM. Godley** of Greenwich, Conn., and New York City, was elected president of the company. Mr. Godley, who is a graduate of Massachusetts Institute of Technology, has been for many years a member of the board. At the same meeting, **O. A. Van Denbergh, Jr.,** of Troy, N. Y., who was recently made vice-president and manager of the company, was elected to the board. These elections fill the vacancies caused by the death of the late President William E. Millhouse, of Troy.

Carlton D. Stewart has been appointed chief engineer of the **Westinghouse Air Brake Company,** with head-

Carlton D. Stewart

quarters at Wilmerding, Pa. After his graduation from the Blairsville, Pa., high school in 1905, Mr. Stewart entered the

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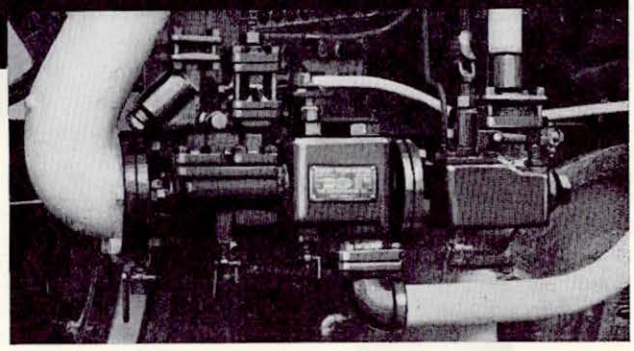
The Elesco Exhaust Steam Injector both Preheats and Injects the Boiler Feed Water



It Operates With *Exhaust Steam*

The Elesco *exhaust steam* injector operates in the same manner as the non-lifting *live-steam* injector. It is operated, however, by *exhaust steam,* which otherwise would be wasted to the atmosphere. When no exhaust steam is available, it automatically, but temporarily, changes over to *live-steam* operation. The Elesco *exhaust steam* injector always operates on exhaust steam, when available, but operates equally well either with exhaust or live steam, insuring high delivery temperatures at all times.

Since it operates principally on exhaust steam, heat and water, otherwise wasted, are returned to the boiler . . . . giving substantial savings in fuel and water or a corresponding increase in sustained boiler capacity.

The recognition of the value of the Elesco *exhaust steam* injector as an economy- and capacity-increasing apparatus is shown by its worldwide application . . . . more than 20,000 of this type now are in service. The Elesco *exhaust steam* injector provides improved operation for new power. It means new life for existing underboilered locomotives.

THE SUPERHEATER COMPANY

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employ of the Westinghouse Company as machinist apprentice. Before completing this training he enrolled in the mechanical engineering course at Pennsylvania State College, returning to the Westinghouse Company in 1912 as a special engineer. He was sent to the San Francisco, Cal., office as mechanical expert in 1913 and three years later took on the additional duties of shop superintendent of the Pacific Coast Brake Company, a subsidiary. In 1917, Mr. Stewart was promoted to district engineer of the Westinghouse Air Brake Company, and in 1925 was elected vice-president, director and manager of the above-mentioned subsidiary, which positions he held until his recent appointment as chief engineer.

John B. Hull has been promoted to district engineer of the **Westinghouse Air Brake Company,** with headquarters at San Francisco, Cal., succeeding C. D. Stewart. Mr. Hull was born in Connecticut and attended schools in that state; he later entered the Sheffield Scientific School of Yale University, but during the World War he served with the U. S. Army in France. After the Armistice he returned to Yale, finished his college course, and in 1920 entered the employ of the

John B. Hull

Westinghouse Air Brake Company at Wilmerding, Pa., as special engineer. In 1925 he served as assistant chief draftsman, and two years later as assistant to the chief design engineer. In 1929 Mr. Hull was transferred to the San Francisco office as assistant district engineer, which position he held until his recent promotion to district engineer.

William E. Corrigan, district sales manager of the American Locomotive Company, at Cleveland, Ohio, has been appointed assistant vice-president, **Railway Steel-Spring** division of the **American Locomotive Company,** with headquarters at New York, reporting to Alexander S. Henry, vice-president, Railway Steel-Spring division. Mr. Corrigan will have charge of sales of springs, tires and appurtenant parts. He entered the service of the American Locomotive Company in 1909, and is a graduate of the four-year course in locomotive construction which the company conducts in its engineering department at Schenectady, N. Y. From May, 1913, he served in various capacities in the drawing office in Schenectady until 1915, when he was transferred to the Cooke plant, Paterson, N. J., where he was employed on elevation work and general calculating. He remained in this service until November, 1917, when he entered the

William E. Corrigan

United States Army where he served successively as second lieutenant, first lieutenant and captain in the artillery ordinance branch, field service, in charge of plant production at several gun carriage and ammunition plants. After the armistice, he became secretary and then ordnance district chief and chairman of the claims board in charge of the settlement of claims arising out of the cancellation of war contracts between the government and various manufacturers. In 1920, Mr. Corrigan reentered the employ of the American Locomotive Company, serving for two years in the sales department at New York, when he was transferred to Chicago as salesman for Alco accessories in the middle western territory. In 1923, he was appointed general sales representative of the company on the Pacific Coast with the title of district sales manager, and in 1930 he was transferred to Cleveland, retaining the same title, which position he held until his present appointment.

TRADE PUBLICATIONS

Low Pressure Air.—Under the title "Low Pressure Air vs. Compressed Air for Rivet Heating Forges," the Mahr Manufacturing Company, Minneapolis, Minn., has issued technical bulletin No. 7 which contains extensive descriptive material, tabular data and calculations showing the economies which may be expected by use of modern low-pressure equipment Copies of this bulletin may be secured from the manufacturers, upon request.

Coated Electrodes.—The Air Reduction Sales Company, New York, has issued a leaflet describing shielded arc electrodes, Nos. 78, 79 and 81. Airco rods Nos. 78 and 79 have a tensile strength of from 60,000 to 75,000 lb. per sq. in., an elongation of from 22 to 30 per cent, and a high resistance to corrosion. No. 78 is recommended for flat welding, while No. 79 is for vertical and overhead work. No. 81, a heavily coated electrode for flat welding only, has similar characteristics, except that its elongation runs about 5 per cent greater.

Financial

Canadian Pacific. — *New Director.* — Morris W. Wilson, president of the Royal Bank of Canada, was elected to the directorate of this company at a meeting of the Board this week. He succeeds to the vacancy created by the death of W. J. Blake Wilson of Vancouver.

Chicago Great Western.—*New Directors.*—Milton W. Griggs of the Griggs-Cooper Company, St. Paul, Minn., and Ralph M. Shaw, general counsel of the Chicago Great Western, and a member of the firm of Winston, Strawn & Shaw, Chicago, were elected directors of this company at the adjourned meeting of stockholders on January 3. Mr. Griggs succeeds Richard J. Collins, deceased, while Mr. Shaw fills the vacancy left unfilled at the annual meeting in April, 1934.

Dalles & Southern. — *Acquisition.* — This company has applied to the Interstate Commerce Commission for authority to acquire and operate the property of the Great Southern Railroad, which has a line from The Dalles, Ore., to Friend, Ore., 40.79 miles.

Colorado & Southern.—*Bond Extension Plan.*—Holders of $20,000,000 of general mortgage 4½ per cent bonds of this company have been asked to give their consent to a plan for extending for 15 years the maturity of $33,170,000 of refunding and extension 4½ per cent bonds which fall due May 1.

Lehigh Valley.—*Abandonment Application Denied.*—The Interstate Commerce Commission has denied authority to the Lehigh Valley and the State Line & Sullivan to abandon the entire line of the latter company extending from Bernice, Pa., to Monroeton, 24 miles.

Maine Central.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for a certificate authorizing the abandonment of a line from Woodland Junction, Maine, to Princeton, 10.5 miles.

Minneapolis & St. Louis.—*Partitioning Plan Considered.*—Ralph Budd, president of the Chicago, Burlington & Quincy, has submitted to the Reconstruction Finance Corporation a report on a plan considered at a meeting of the executives of eight roads connecting with the M. & St. L., at the request of Chairman Jones of the R. F. C., for a possible partitioning of its property among the connecting roads. Mr. Jones said the report indicated how the property might be divided among some of the eight roads but no specific terms for acquisition and that the subject would be discussed informally with the Interstate Commerce Commission.

Mississippi Central.—*Notes.*—The Interstate Commerce Commission has authorized this company to issue nonnegotiable promissory notes totaling $750,000 to refund obligations.

New York, New Haven & Hartford. —*Notes.*—This company has applied to the Interstate Commerce Commission for

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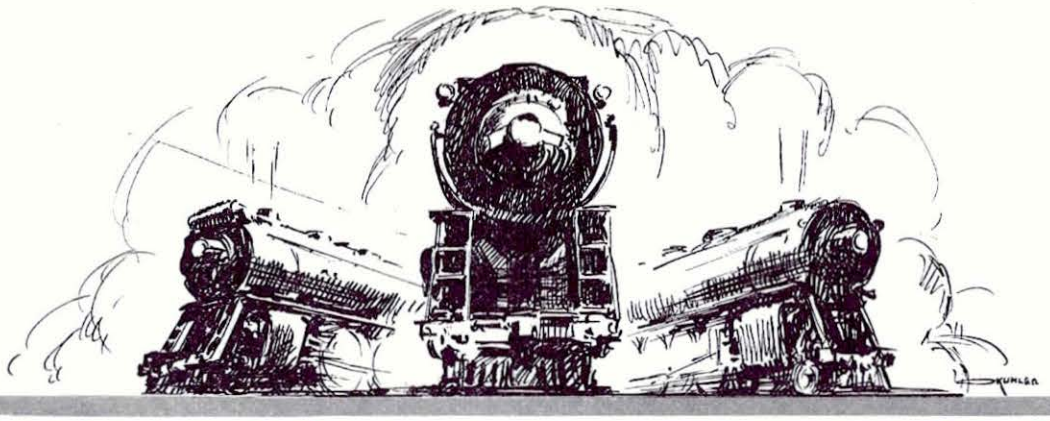

AMERICAN LOCOMOTIVE CO.

FOOD FOR THOUGHT—3

"TRAVELING by rail is undoubtedly from the public point of view far more comfortable and safer than by road and the transport of goods can be more efficiently done as a whole by the railway than by any other means. We cannot here discuss how such money for modern equipment is to be made available, whether from loans, reserves, renewal funds, depreciation, or even revenue, but we earnestly submit that the case for the speedier modernisation of railway equipment in all countries of the world at this time was never greater, nor an adequate return on the investment surer. Cheap, efficient and economical steam locomotives are available and for special conditions there is the powerful articulated engine perfected in recent years, while for certain shunting and branch line work the compression ignition engine offers an attractive solution.

The position demands further investigation from the basis that tens of thousands of trains are being operated to-day whose equipment and performance is wholly inadequate, highly expensive and very inefficient. Probed to the depths, many railways who admit that they require new equipment but plead inability to purchase may find themselves in a perfectly sound financial position to embark on such expenditure. In the future there must be a quicker turnover by more intensive usage of railway equipment. Thus will the average age of equipment be reduced, and a step forward towards an adequate return on railway capital be made. Now is the time to buy! In this age we cannot compete or make money with out-of-date appliances."

End of Quotation

THE RAILWAY GAZETTE (London)
Nov. 28, 1934

30 CHURCH ST. NEW YORK · N·Y

authority to renew to December 31, 1936, outstanding promissory 4½ per cent notes to the amount of $19,851,748.

NORFOLK & WESTERN.—*Abandonment of Operation.*—The Interstate Commerce Commission has authorized this company to abandon a branch line extending from a point near Ivanhoe, Va., to Speedwell, 16.5 miles, with an appendant 1.4-mile branch. Authority to abandon a 12.3-mile branch extending southward from Reed Junction, near Allisonia, was denied.

PEARL RIVER VALLEY.—*Operation.*—This company has applied to the Interstate Commerce Commission for authority to operate over a 22.5 mile line of the Goodyear Yellow Pine Company connecting with its line at Pearl River, Miss.

PITTSBURGH & WEST VIRGINIA.—*R.F.C. Loan.*—Division 4 of the Interstate Commerce Commission has issued a report approving this company's application for a loan of $500,000 from the Reconstruction Finance Corporation without requiring that it be guaranteed by the Pennroad Corporation. The commission had attached such a condition to its original approval of the loan but the Pennroad Corporation declined to give the guaranty and the P. & W. V. asked for a rehearing.

SOUTHERN.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon a line of 3.45 miles in Pittsylvania county, Va.

SOUTHERN PACIFIC. — *Abandonment.* — This company has applied to the Interstate Commerce Commission for authority to abandon part of its Springville branch, in Tulare county, Calif., 2.3 miles.

SOUTHERN PACIFIC.— *Operation.*— This company has applied to the Interstate Commerce Commission for authority to extend its operations over the line of the Yuma Valley Railroad, owned by the United States Reclamation Service, between Yuma, Ariz., and Somerton.

SOUTHERN PACIFIC.—*E. P. & S. W. Acquisition of Arizona & New Mexico.*—The Interstate Commerce Commission has authorized the El Paso & Southwestern to acquire the properties of the Arizona & New Mexico, which extend from Clinton, N. M., to Lordsburg and Valedon, 75.5 miles. The E. P. & S. W. owns all the stock of the A. & N. M. and its stock in turn is owned by the Southern Pacific which operates both lines under lease.

Average Prices of Stocks and of Bonds

	Jan. 15	Last week	Last year
Average price of 20 representative railway stocks..	33.45	36.83	44.02
Average price of 20 representative railway bonds..	75.90	76.56	72.47

Dividends Declared

Augusta & Savannah.—$2.50, semi-annually; Extra, 25c, both payable January 7 to holders of record January 7.

Erie & Kalamazoo.—$1.62½, payable February 1 to holders of record January 26.

Louisiana & Missouri River.—7 Per Cent Guaranteed Preferred, $1.75, quarterly payable February 1 to holders of record January 18.

Louisville, Henderson & St. Louis.—Preferred, $2.50, semi-annually, payable February 15 to holders of record February 1.

Northern R. R. of N. H.—$1.50, quarterly, payable January 31 to holders of record January 8.

Railway Officers

EXECUTIVE

Sprague and Junell Appointed Co-Receivers of M. & St. L.

L. C. Sprague, executive representative of the Missouri-Kansas-Texas at Washington, D. C., and John Junell, an attorney at Minneapolis, Minn., have been appointed co-receivers of the Minneapolis & St. Louis, succeeding the late William H. Bremner. The appointments were made by Judge Booth, sitting in Federal District Court at Minneapolis.

At a meeting of the Board of Directors of the Denver & Salt Lake on December 21, 1934, **W. R. Freeman** resigned from the presidency of this road and **Wilson McCarthy** was elected to succeed him, with headquarters at Denver, Colo., effective that date. Mr. Freeman will continue as a director and as a member of the executive committee, and has been elected president retired.

G. T. Atkins, vice-president in charge of traffic of the Missouri-Kansas-Texas with his headquarters at St. Louis, Mo., has been appointed executive vice-president, a position that has been vacant since the resignation of **H. E. McGee** in 1933. **J. F. Garvin,** freight traffic manager of the Texas lines at Dallas, succeeds Mr. Atkins as vice-president in charge of traffic.

FINANCIAL, LEGAL AND ACCOUNTING

John H. Agate, assistant to the vice-president (corporate relations) of the New York, Chicago & St. Louis, has been appointed to the newly-created position of general attorney, with headquarters as before at Cleveland, Ohio.

The new title of **W. R. Patterson,** former general auditor for the Canadian

W. R. Patterson

Pacific, is assistant comptroller and not deputy comptroller as reported in the *Railway Age* of January 12. Mr. Patterson entered the service of the Canadian Pacific as clerk in the office of the auditor of disbursements at Montreal, in June, 1913. He was promoted to senior clerk in that office in November, 1921, and in May, 1925, became assistant auditor of disbursements, being appointed auditor of disbursements in October, 1926. He became deputy general auditor in January, 1931, and general auditor in February, 1932.

C. E. Marchell, whose appointment as general auditor for the Canadian Pacific was noted in the *Railway Age* of January 12, entered the service of the Canadian Pacific in April, 1926, as joint facilities

C. E. Marchell

accountant in the office of the auditor of disbursements at Montreal and in July, 1929, was appointed chief joint facilities accountant at that city, the position he held until his recent appointment.

G. B. Perkins, assistant chief accounting officer of the St. Louis-San Francisco, who has been appointed chief accounting officer, as noted in the *Railway Age* of January 12, was born at Cincinnati, Ohio. Mr. Perkins first entered railway service as a rodman on the Cincinnati division of the Pittsburgh, Cincinnati, Chicago & St. Louis (now part of the Pennsylvania), and later served under the engineer maintenance of way of the Cincinnati, New Orleans & Texas Pacific (now part of the Southern). In July, 1901, Mr. Perkins entered the service of the Kansas City, Fort Scott & Memphis (now part of the Frisco), as a clerk in the office of the freight accountant, with headquarters at Kansas City, Mo. When the Frisco absorbed the K. C. F. S. & M., in 1901, Mr. Perkins was moved to St. Louis, Mo., where he served as a clerk in the office of the auditor of freight accounts. In July, 1904, he was transferred to the office of the vice-president and general auditor, remaining there until June, 1911, when he resigned to enter other business at Portland, Ore. In July, 1912, Mr. Perkins reentered railway service by entering the accounting department of the Spokane, Portland & Seattle. In January, 1914, he entered the service of the Interstate Commerce Commission as examiner of accounts, being assigned to the San Francisco office of the commission in July of the same year. In April, 1918, he reentered the service of the Frisco and

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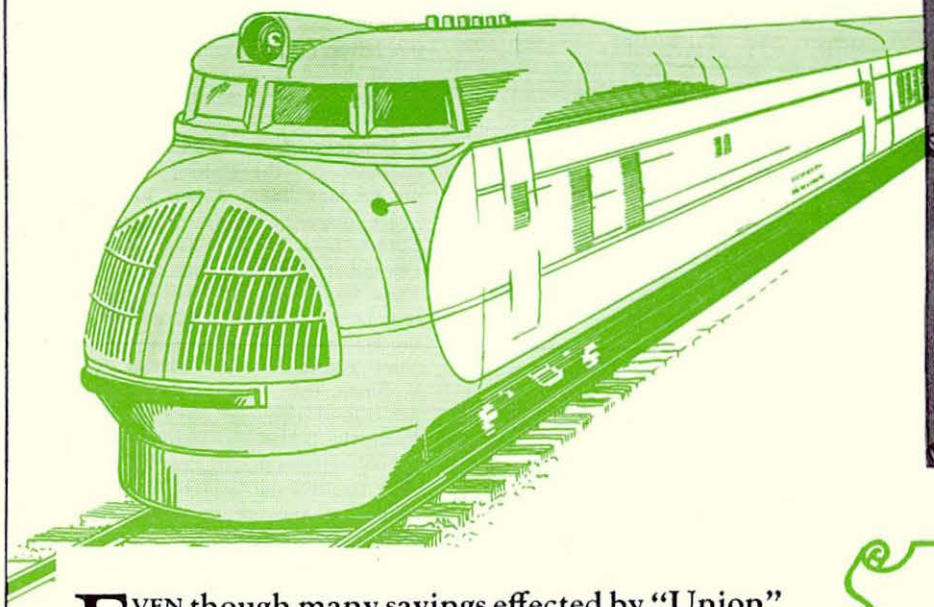

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2. Expedite traffic.
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4. Indicate *instantly* any changed condition on track ahead.
5. Permit trains to increase speed *at any point* where a less restrictive indication is received.
6. Determine location of broken rails.
7. Supplemented by audible indication.
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9. Prevent misreading of wayside signals.
10. Effect operating economies.

867

1881 **Union Switch & Signal Co.** 1935

SWISSVALE, PA.

NEW YORK MONTREAL CHICAGO ST. LOUIS SAN FRANCISCO

served successively until his recent appointment as assistant auditor, assistant federal auditor, assistant

G. B. Perkins

to comptroller, auditor, general auditor, assistant comptroller, and assistant chief accounting officer.

OPERATING

J. B. Hamilton, assistant superintendent of the Chicago Terminal division of the Illinois Central, has been promoted to superintendent of the St. Louis division, with headquarters at Carbondale, Ill. Mr. Hamilton replaces **H. J. Roth,** who has been transferred to the Springfield division, with headquarters at Clinton, Ill., succeeding **J. W. Kern,** who has been transferred to the Kentucky division, with headquarters at Paducah, Ky., where he succeeds **Thomas E. Hill,** whose death on January 7 was noted in the *Railway Age* of January 12.

Mr. Hamilton entered the service of the Illinois Central in 1907 as a clerk at Du-

J. B. Hamilton

Quoin, Ill., being appointed cashier at Hawthorne, Ill., three years later. In 1912, he served for a short time as agent at Harvey, Ill., after which he served five years as chief clerk of the loss and claim bureau at Chicago. Mr. Hamilton was appointed agent at Fordham, Ill., in 1917, and in 1918 he was appointed terminal freight agent at Chicago, returning to Fordham in 1920 as acting trainmaster. During the same year Mr. Hamilton served for a short time as supervising agent on the St. Louis division, then returning to Fordham as trainmaster. In 1925 he was transferred to Chicago and four years later he was promoted to superintendent of freight service at Markham yard, Chicago. In the following year, Mr. Hamilton was advanced to superintendent of the Wisconsin division, with headquarters at Freeport, Ill., being appointed assistant superintendent of the Chicago Terminal division in 1931.

TRAFFIC

J. E. Steele, general agent for the St. Louis-San Francisco at Fort Worth, Texas, has been appointed to the newly-created position of general freight and passenger agent with the same headquarters. **W. T. Minor** has been appointed to the new position of assistant general freight agent, with headquarters at Fort Worth.

W. E. Callender, who has been appointed assistant passenger traffic manager of the Chicago & Eastern Illinois, with headquarters at Chicago, as noted in the *Railway Age* of December 29, has been connected with this company and one of its predecessors, the Evansville & Terre Haute, for 29 years. He entered the service of the E. & T. H. in 1906, as a mail boy in the general office at Evansville. Later he served as an office boy in the office of the general freight agent at Evansville, and in 1908 he was promoted to assistant city ticket agent at the same point. In the following year Mr. Callender was advanced to city ticket agent at Evansville, which position he held until 1916, when he was appointed traveling passenger agent with headquarters at Chicago, returning to Evansville in 1918 as division passenger agent. In 1919, Mr. Callender returned to Chicago as general agent, passenger department, which position he continued to hold until his recent appointment to the newly-created position of assistant passenger traffic manager, effective December 20.

ENGINEERING AND SIGNALING

H. B. Lincoln, general track inspector for the New York Central, with headquarters at New York, has been appointed division engineer, Pennsylvania division, with headquarters at Jersey Shore, Pa. **H. I. Hoag,** division engineer at Jersey Shore, Pa., has been appointed engineer of the Buffalo division, with headquarters at Buffalo, N. Y.

PURCHASES AND STORES

L. J. Ahlering, general storekeeper of the Chicago & Eastern Illinois, with headquarters at Danville, Ill., has been appointed also acting purchasing agent, succeeding **John H. Beggs,** deceased.

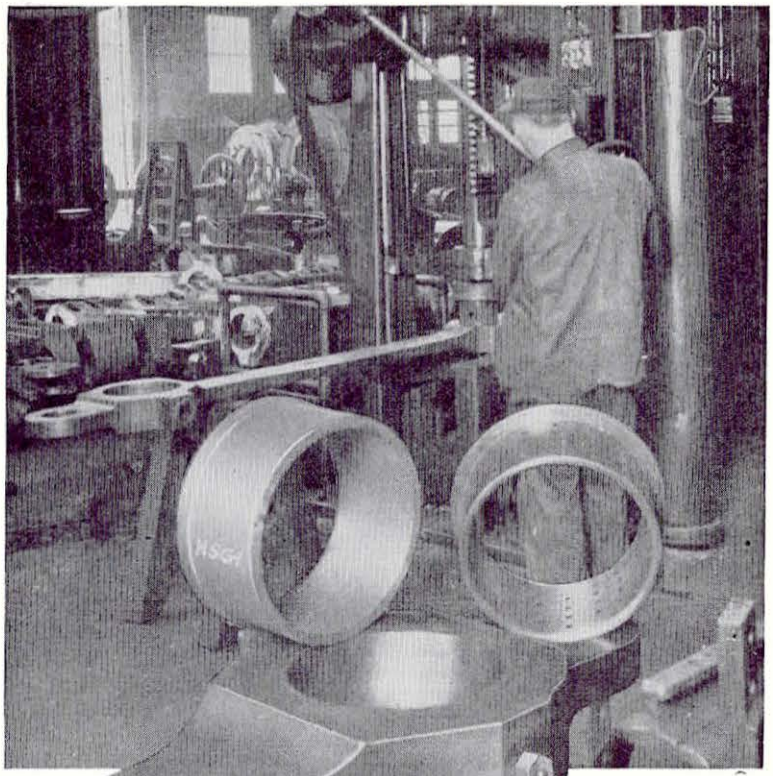
OBITUARY

Clinton McCullough, general coal agent of the Chicago & North Western, with headquarters at Chicago, died suddenly at his home at Evanston, Ill., on January 13.

M. L. Costley, assistant traffic manager of the Illinois Central, with headquarters at New Orleans, La., died suddenly on January 12 in a hospital at Memphis, Tenn. Mr. Costley had been connected with the Illinois Central System for 34 years. He was born on September 4, 1881, at New Orleans, and was educated at Louisiana State university. He entered the service of the Illinois Central and the Yazoo & Mississippi Valley in 1901 as a stenographer, then serving consecutively as a rate clerk, freight clerk, traveling freight agent, chief clerk and assistant general freight agent until March, 1920, when he was appointed general freight agent with headquarters at New Orleans. He held the latter position continuously until 1932, when he was appointed assistant traffic manager with the same headquarters.

Francis Lee Stuart, former chief engineer for the Baltimore & Ohio, died on January 15 at Essex Falls, N. J., of heart disease, at the age of 68. Mr. Stuart was born at Camden, S. C., on December 3, 1866, and after graduating from the Emerson Institute at Washington, D. C., in 1884, entered the service of the Baltimore & Ohio in the office of the chief engineer. He served as rodman, levelman, transitman and resident engineer for the Baltimore & Ohio until 1887. From the latter year until 1889 Mr. Stuart did miscellaneous engineering work. From 1889 to 1891 he was resident engineer in charge of the construction of the Briarfield Blocton & Birmingham (now Southern) and engineer maintenance of way for that road. Mr. Stuart returned to the Baltimore & Ohio in 1892 as resident engineer, becoming supervisor in 1894. In 1895 he became general engineering and supervising engineer for the contractors building the United States experimental model tank at Washington navy yard and in 1897 he became assistant engineer for the Nicaragua Canal Commission in charge of surveys on the eastern side, and also of estimates of canal variants at Washington, D. C. In 1900 Mr. Stuart returned again to the B. & O. as assistant engineer and engineer of surveys. From 1905 to 1910 he served as chief engineer for the Erie and from 1910 to 1915 as chief engineer for the Baltimore & Ohio. In 1915 Mr. Stuart resigned from railroad service to become a consulting engineer. When the United States entered the World War he was appointed to the War Industries Board. He served also as chairman of the Terminal Port Facilities Committee, chairman of the budget committee of the United States Railroad Administration and as a member of the Depot Board of the War Department. Mr. Stuart also served as consulting engineer for the New York Harbor and Hydro-Electric Power Commission, and as engineering expert for the Port Development Commission of Baltimore. He also was vice-chairman of the technical board of the Port of New York Authority and a member of the Transit Advisory Board of Philadelphia.

For The VITAL WEARING PARTS



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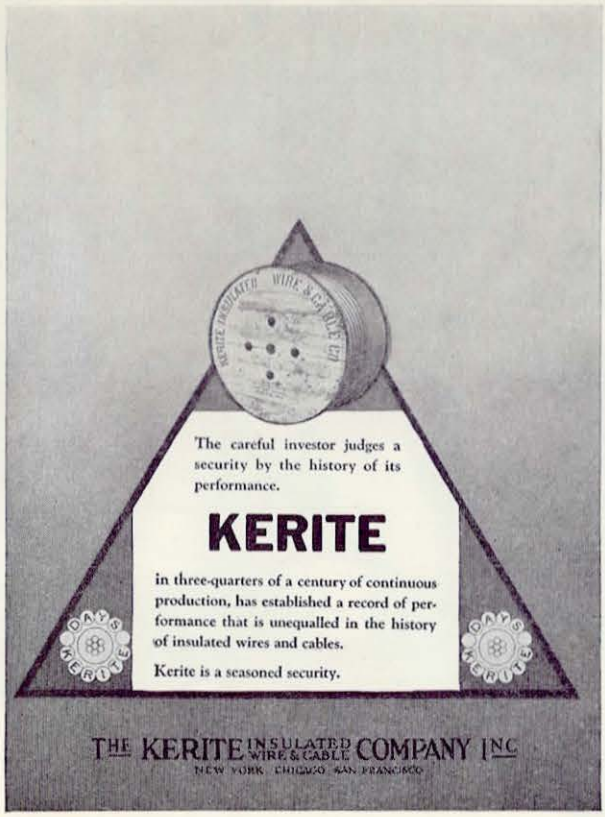
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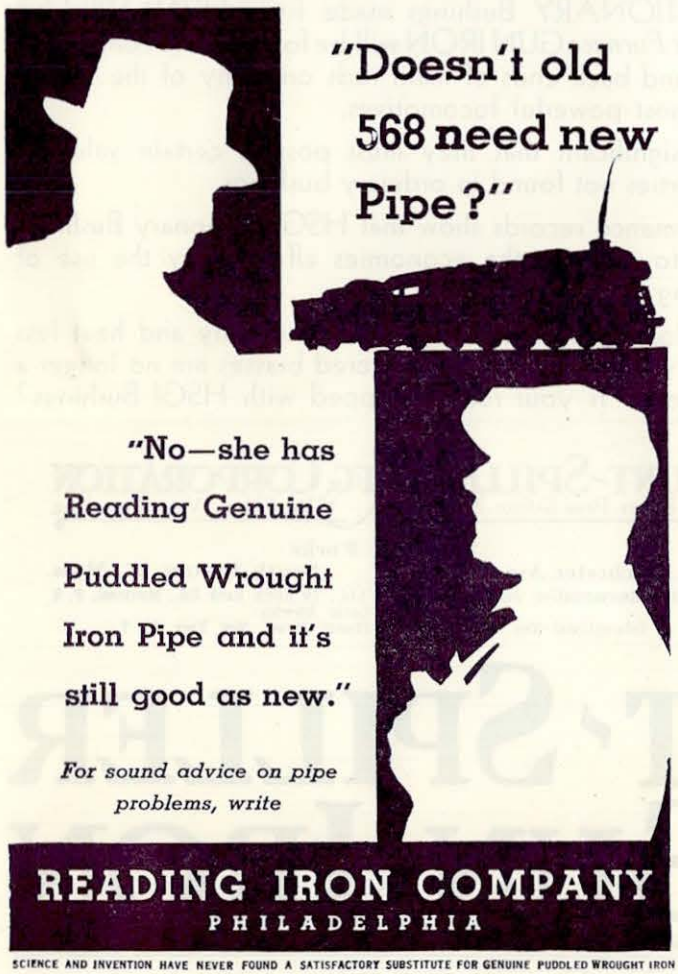
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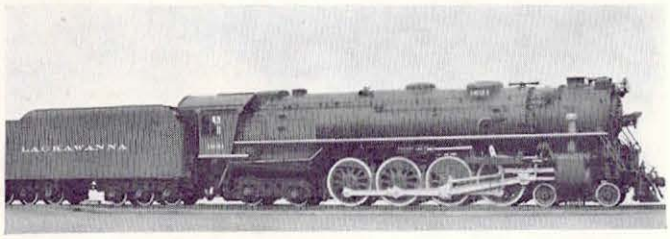

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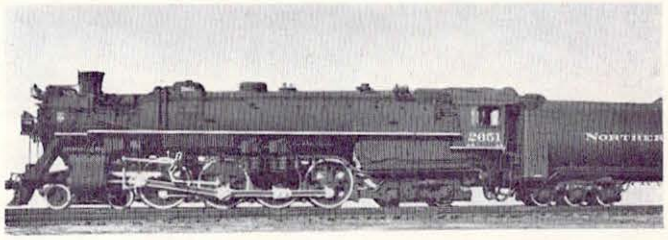

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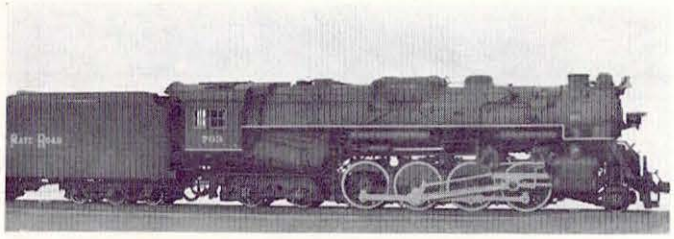

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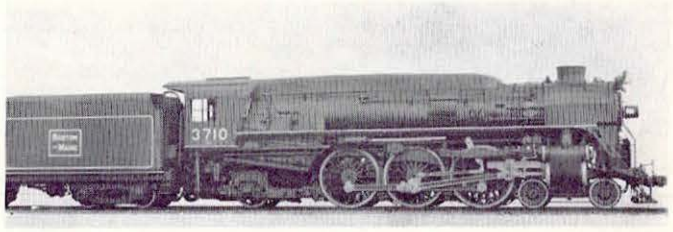

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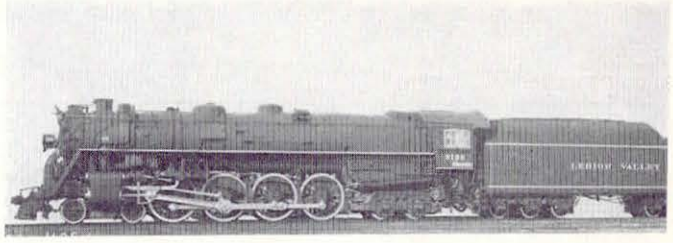

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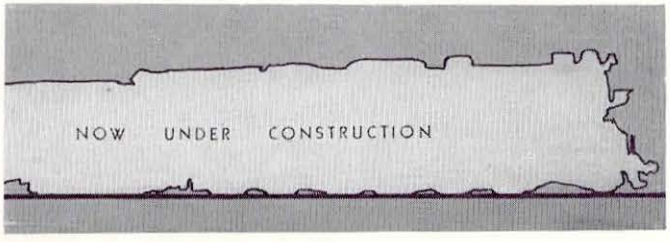

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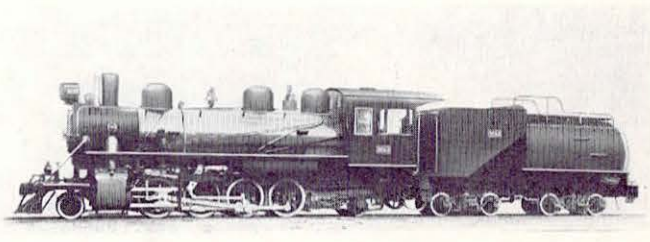

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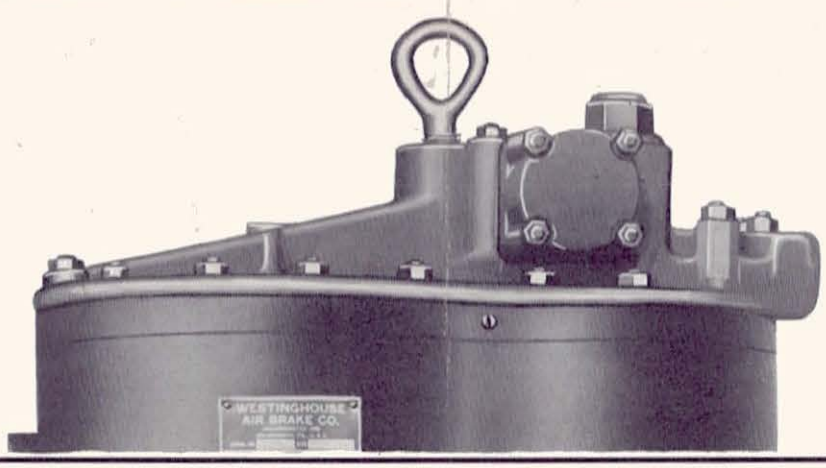

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